

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
AIR QUALITY CONTROL OPERATING PERMIT
ADMINISTRATIVE AMENDMENT TO INCORPORATE
TITLE I CONDITIONS

Permit No. AQ0009TPV01
Application No.0009
Revision 2: May 10, 2007

Issue Date: August 5, 2003
Expiration Date: August 31, 2008

The Department of Environmental Conservation, under the authority of AS 46.14, 18 AAC 50.326, and 40 C.F.R. 71.7(d)(1)(v) incorporates the provisions of Minor Permit AQ0009MSS02, issued April 25, 2007, into Operating Permit No. AQ0009TVP01, Revision 1 by administrative amendment.

This permit is issued to Union Oil Company of California for the Steelhead Platform. Union Oil Company of California is required to continue complying with Operating Permit No. AQ0009TVP01, Revision 1 except as revised in Operating Permit AQ0009TVP01, Revision 2.

This action is a final action for the purposes of establishing an operating permit shield under 40 C.F.R. 71.7(d)(4).

The Technical Analysis Report for AQ0009MSS02, issued April 25, 2007, is incorporated by reference as a supplement to the Statement of Basis for Operating Permit No. AQ0009TVP01, Revision 2.



John F. Kuterbach, Manager

Air Permits Program

Table 1 Changes due to Minor Permit No. AQ0009MSS02	
The following conditions or sections of Operating Permit No. AQ0009TVP01, Revision 1, listed in Column 1 of this table are amended or replaced by the requirements of the Title 1 permit conditions listed in Column 2.	
Column 1 Operating Permit Condition	Column 2 Title 1 Permit Condition.
<i>Amend Table 1 Source Inventory and Description to add Emission Units 14 and 15</i>	<i>Table 1 Minor Permit Emission Unit Inventory</i>
<i>Rescind and replace Condition 1</i>	<i>Condition 13</i>
<i>Rescind and replace Condition 2</i>	<i>Condition 14</i>
<i>Amend Section 12 to add Emission Units 14 and 15</i>	<i>Conditions 3 and 4</i>
<i>Amend Conditions 5.5, 5.6 and 5.7 to add Emission Units 14 and 15.</i>	<i>Condition 5</i>
<i>Amend Conditions 11, 12, 13, 14 and 17 to add Emission Unit 15.</i>	<i>Conditions 8, 9, 10</i>
<i>Modify Section 8 to add Conditions for Emission Units 14 and 15.</i>	<i>Conditions 6 and 7.</i>

The authority line for each provision listed in column 1 above is changed to [AQ0009MSS02, April 25, 2007].

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AIR QUALITY OPERATING PERMIT

Permit No. **AQ0009TVP01**
Application No.: **000009**
FINAL Revision 1 Date: June 6, 2006

Issue Date: **August 5, 2003**
Expiration Date: **August 31, 2008**

The Department of Environmental Conservation, under the authority of AS 46.14 and 18 AAC 50 issues an operating permit to the Permittee, **Union Oil Company of California**, for the operation of the **Steelhead Platform**.

This permit satisfies the obligation of the owner and operator to obtain an operating permit as set out in AS 46.14.130(b).

As set out in AS 46.14.120(c), the Permittee shall comply with the terms and conditions of this operating permit.

All facility-specific terms and conditions of Air Quality Control Permit-to-Operate 9423-AA003 as amended through July 30, 1996 and Minor Permit AQ0009MSS01 issued April 7, 2006 have been incorporated into this operating permit as revised.

This Operating Permit becomes effective September 1, 2003.

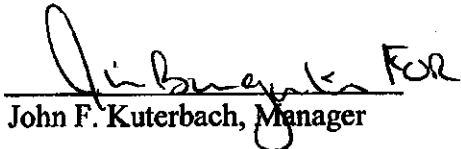

John F. Kuterbach, Manager
Air Permits Program

Table of Contents

List of Abbreviations Used in this Permit.....	3
Section 1. Identification	4
Section 2. General Emission Information.....	5
Section 3. Source Inventory and Description	6
Section 4. Fee Requirements.....	7
Section 5. Source-Specific Requirements.....	8
Fuel-Burning Equipment	8
Operating Hours Limits for Source ID(s) 10 and 11	10
Operating Hours Monitoring for Source ID(s) 1 - 9	10
BACT Emission Limits -Source ID(s) 1 through 3, and 5	10
Liquid Fuel Sulfur Monitoring.....	12
Federal New Source Performance Standards, Subpart A, for Source ID(s) 1 through 5.....	12
Turbines Subject to NSPS Subpart GG, Source ID(s) 1 through 5	13
Section 6. Insignificant Source	20
Section 7. Generally Applicable Requirements.....	21
Section 8. General Source Testing and Monitoring Requirements.....	24
Section 9. General Recordkeeping, Reporting, and Compliance Certification Requirements	27
Section 10. Standard Conditions Not Otherwise Included in the Permit.....	31
Section 11. Permit As Shield from Inapplicable Requirements	33
Section 12. Visible Emissions and PM Monitoring, Recordkeeping and Reporting.....	36
For Source ID(s) 1 and 2 (when firing on gas) and Source ID(s) 3 through 5	36
For Source ID(s) 1 and 2 (when firing on liquid) and Source ID(s) 6 through 11	36
Section 13. Visible Emissions Field Data Sheet.....	40
Section 14. SO ₂ Material Balance Calculation	42
Section 15. ADEC Notification Form.....	43

List of Abbreviations Used in this Permit

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AS	Alaska Statutes
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
C.F.R.	Code of Federal Regulations
CO	Carbon Monoxide
dscf	Dry standard cubic foot
EPA	US Environmental Protection Agency
gr./dscf	grain per dry standard cubic foot (1 pound = 7000 grains)
GPH	gallons per hour
HAPs or HACs	Hazardous Air Pollutants or Hazardous Air Contaminants [<i>HAPs</i> or <i>HACs</i> as defined in AS 46.14.990(14)]
ID	Source Identification Number
kPa	kiloPascals
MACT	Maximum Achievable Control Technology
MR&R	Monitoring, Recordkeeping, and Reporting
NESHAPs	Federal National Emission Standards for Hazardous Air Pollutants [<i>NESHAPs</i> as defined in 40 C.F.R. 61]
NO _x	Nitrogen Oxides
NSPS	Federal New Source Performance Standards [<i>NSPS</i> as defined in 40 C.F.R. 60]
ppmw	Parts per million by weight
ppmv	Parts per million by volume
PS	Performance specification
PSD	Prevention of Significant Deterioration
RM	Reference Method
SIC	Standard Industrial Classification
SO ₂	Sulfur dioxide
TPH	Tons per hour
tpy	Tons per year
VOC	volatile organic compound [<i>VOC</i> as defined in 18 AAC 50.990(103)]
wt%	weight percent

Section 1. Identification

Names and Addresses

Permittee: Union Oil Company of California (UOCC)
P. O. Box 190947
Anchorage, AK 99519-0947

Facility Name: Steelhead Platform

Location: 60° 49' 50" North; 151° 36' 0" West

Physical Address: Upper Cook Inlet, Alaska

Owner: Union Oil Company of California
P. O. Box 190947
Anchorage, AK 99519-0947

Operator: Union Oil Company of California
P. O. Box 190947
Anchorage, AK 99519-0947

Permittee's Responsible Official Dale Haines, UOCC Alaska Operations Manager

Designated Agent: CT Corporation
801 West 10 th Street, Suite 300
Juneau, AK 99801

Facility and Building Contact: Mark Atkins / Paul Bartolowits, Foremen
Phone: (907) 776-6830
Fax: (907) 776-6835

Fee Contact: David Bailey
Union Oil Company of California
P. O. Box 190947
Anchorage, AK 99519-0947
dbailey@UOCC.com

SIC Code of the Facility: 1311 Crude Oil And Fuel Gas

[18 AAC 50.350(b)(1), 1/18/97]

Section 2. General Emission Information

Emissions of Regulated Air Contaminants, as stated in the application:

Particulate Matter (PM-10), Sulfur Oxides (SO_x), Nitrogen Oxides (NO_x), Carbon Monoxide (CO), and Volatile Organic Compounds (VOCs).

Operating Permit Classifications as described under 18 AAC 50.325:

- (1) 18 AAC 50.325(b)(1). The Steelhead Platform site is a facility subject to this regulation because the plant emits or has the potential to emit 100 tons per year (tpy) or more of a regulated air contaminant.
- (2) 18 AAC 50.325(b)(3). The Steelhead Platform site is a facility subject to this regulation because sources in Table 1 are subject to one of the New Source Performance Standards (NSPS) adopted by reference in 18 AAC 50.040(a)-(c).
- (3) 18 AAC 50.325(c). The Steelhead Platform site is a facility subject to this regulation because it is a facility described in 18 AAC 50.300(b - e), therefore, it is within the category of facilities subject to AS 46.14.130(b)(4).

[18 AAC 50.350(b)(1), 1/18/97]

Section 3. Source Inventory and Description

Sources listed in Table 1 have specific monitoring, recordkeeping, or reporting conditions in this permit. Source descriptions and ratings are given for identification purposes only.

Table 1 - Source Inventory

ID	Tag No.	Source Name	Source Description	Fuel Used	Rating/size	Installation Date
1	H-G-01A	Allison 501 KB Turbine	Generator A Drive	Fuel Gas & Diesel	41.1 MMBtu/hr	1986
2	H-G-01B	Allison 501 KB Turbine	Generator B Drive	Fuel Gas & Diesel	41.1 MMBtu/hr	1986
3	H-G-01C	Allison 501 KB Turbine	Generator C Drive	Fuel Gas	41.1 MMBtu/hr	1986
4	H-C-12	Solar Taurus T-9500 Turbine	C-12 Transport Comp. Drive	Fuel Gas	85.2 MMBtu/hr	1997
5	H-C-13	Solar Taurus T-7000 Turbine	C-13 Transport Comp. Drive	Fuel Gas	54.9 MMBtu/hr	1991/1999
6	H-G-02	Cat D3516-TA Engine	Emergency Production Generator Drive	Diesel	1,400 Hp	1986
7	H-D-399	Cat D399 Engine	Standby Drilling Gen Drive	Diesel	1,400 Hp	1986
8	H-M-34	Cat D3208-DITA Engine	North Crane Engine	Diesel	450 Hp	1988
9	H-M-35	Cat D3208-DITA Engine	South Crane Engine	Diesel	450 Hp	1988
10	H-P-30A	Detroit Diesel 12D71	NW Fire Pump Drive	Diesel	450 Hp	1986
11	H-P-30B	Detroit Diesel 12D71	SE Fire Pump Drive	Diesel	450 Hp	1986
12	H-M-30	HP/LP Flare/Pilot-	North Safety Flare	Fuel Gas	181.5 MMCFD	1986
13	H-M-31	HP/LP Flare/Pilot-	South Safety Flare	Fuel Gas	181.5 MMCFD	1986

[18 AAC 50.350(d)(2), 1/18/97]

Section 4. Fee Requirements

1. **Assessable Emissions.** The Permittee shall pay to the department an annual emission fee based on the facility's assessable emissions as determined by the department under 18 AAC 50.410. The assessable emission fee rate is set out in 18 AAC 50.410. The department will assess fees per ton of each air contaminants that the facility emits or has the potential to emit in quantities greater than 10 tons per year. The quantity for which fees will be assessed is the lesser of

- 1.1 the facility's potential to emit of 1,208 tpy; or
- 1.2 the facility's projected annual rate of emissions that will occur from July 1 to the following June 30, based upon actual annual emissions emitted during the most recent calendar year or another 12-month period approved in writing by the department, when demonstrated by
 - a. an enforceable test method described in 18 AAC 50.220;
 - b. material balance calculations;
 - c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035; or
- 1.3 other methods and calculations approved by the Department.
[18 AAC 50.346(a)(1), 5/3/02 & 50.410, 1/18/97]

2. **Assessable Emission Estimates.** Emission fees will be assessed as follows:

- 2.1 no later than March 31 of each year, submit an estimate of the facility's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emission Estimate, 410 Willoughby Ave., Juneau, AK 99801-1795, the submittal must include all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the Department can verify the estimates, or
- 2.2 if no estimate is received on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit listed in condition 1.1.
[18 AAC 50.346(a)(1), 5/3/02 & 50.410, 1/18/97]

Section 5. Source-Specific Requirements

Fuel-Burning Equipment

3. **Visible Emissions.** The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from Source ID(s) 1 - 13 listed in Table 1 to reduce visibility through the exhaust effluent by any of the following:

- a. more than 20 percent for a total of more than three minutes in any one hour¹,

[18 AAC 50.055(a)(1), 1/18/97 & 18 AAC 50.350(d)(1)(C), 6/21/98]
[40 C.F.R. 52.70, 11/18/98]

- b. more than 20 percent averaged over any six consecutive minutes.

[18 AAC 50.055(a)(1) & 50.346(c), 5/3/02 & 18 AAC 50.350(d)(1)(C), 6/21/98]

- 3.1 Monitor, record and report visible emissions in accordance with Section 12.

[18 AAC 50.350(g) - (i) & 50.346(c), 5/3/02]

4. **Particulate Matter.** The Permittee shall not cause or allow particulate matter emitted from Source ID(s) 1 - 13 to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

[18 AAC 50.055(b) 1/18/97; 18 AAC 50.350(d)(1)(C), 6/21/98 & 18 AAC 50.346(c), 5/3/02]

- 4.1 Monitor, record and report according to Section 12.

[18 AAC 50.350(g) - (i), 5/3/02]

5. **Sulfur Compound Emissions.** In accordance with 18 AAC 50.055(c), the Permittee shall not cause or allow sulfur compound emissions, expressed as SO₂, from Source ID(s) 1 - 13 to exceed 500 ppmv averaged over three hours.

[18 AAC 50.055(c) & 18 AAC 50.350(d)(1)(D), 1/18/97 & 18 AAC 50.346(c), 5/3/02]

For Source ID(s) 1, 2, and 6 – 11, when using liquid fuel

- 5.1 The Permittee shall do one of the following for each shipment of diesel fuel received:

- a. if the fuel grade requires a sulfur content less than 0.5% by weight, keep receipts that specify fuel grade and amount; or
- b. if the fuel grade does not require a sulfur content less than 0.5% by weight, keep receipts that specify fuel grade and amount and

¹ For purposes of this permit, the "more than three minutes in any one hour" criterion in this condition and condition 19 will no longer be effective when the Air Quality Control (18 AAC 50) regulation package effective 5/3/02 is adopted by the U.S. EPA. The six-minute average standard is enforceable only by the State for Source ID(s) 1 - 13 until 18 AAC 50.055(a)(1), dated May 3, 2002 is approved by EPA into the SIP at which time this standard becomes federally enforceable.

- (i) test the fuel for sulfur content; or
 - (ii) obtain test results showing the sulfur content of the fuel from the supplier or refinery; the test results must include a statement signed by the supplier or refinery of what fuel they represent.
- 5.2 Fuel testing under condition 5.1 must follow an appropriate method listed in 18 AAC 50.035 or another method approved in writing by the department.
- 5.3 If a load of fuel contains greater than 0.75 % sulfur by weight, the Permittee shall calculate SO₂ emissions in PPMV using either Section 14 or Method 19 of 40 C.F.R. 60, Appendix A-7, adopted by reference in 18 AAC 50.040(a).
[18 AAC 50.350(g), 1/18/97; 18 AAC 50.350(g) - (l) & 18 AAC 50.346(c), 5/3/02]
- 5.4 The Permittee shall report as follows:
 - a. If SO₂ emissions are calculated under condition 5.3 to exceed 500 ppmv, the Permittee shall report under condition 45. When reporting under this condition, include the calculation under Section 14.
 - b. The Permittee shall include in the operating report required by condition 47
 - (i) a list of the fuel grades received at the facility during the reporting period;
 - (ii) for any grade with a maximum fuel sulfur greater than 0.5 percent sulfur, the fuel sulfur of each shipment; and
 - (iii) for fuel with a sulfur content greater than 0.75 percent, the calculated SO₂ emissions in ppmv.

[18 AAC 50.346(c) & 350(g) - (l), 5/3/02]

For Source ID(s) 1 – 5, when using fuel gas

- 5.5 Monitoring conducted under conditions 17.1 and 17.3 satisfies the monitoring requirements necessary to assure compliance with this condition.
[18 AAC 50.350(g), 1/18/97]
- 5.6 Keep records of analysis in accordance with condition 17.6.
[18 AAC 50.350(h), 5/3/02]
- 5.7 Reporting
 - a. Report under condition 45 whenever the H₂S concentration of the gas obtained or analyzed in condition 5.5 exceeds 4,000 ppmv.

- b. Attach copies of the records required by condition 5.6 with the operating report required by condition 47.

[18 AAC 50.350(l), 1/18/97]

Operating Hours Limits for Source ID(s) 10 and 11

6. The Permittee shall operate the Fire Pumps, Source ID(s) 10 and 11, for not more than 200 hour per year per pump, for the purpose of performing routine maintenance and to verify their operational capabilities.

[Operating Permit No. 9423-AA003, 7/30/96]
[18 AAC 50.350(d)(1)(D), 1/18/97]

- 6.1 Monitor and record the monthly hours of operation and the consecutive twelve-month operating hours required in condition 7.1.
- 6.2 Include copies of the records required by condition 6.1 with the operating report required by condition 47.

[18 AAC 50.350(g)-(l), 5/3/02]

Operating Hours Monitoring for Source ID(s) 1 - 9

7. The Permittee shall monitor and record the hours of operation of Source ID(s) 1 - 9 for each month.

[Operating Permit No. 9423-AA003, 7/30/96]
[18 AAC 50.350(d)(1)(D), 1/18/97 & 18 AAC 50.350(g) - (h), 5/3/02]

- 7.1 In the operating report required by condition 47, report the monthly hours of operation for Source ID(s) 1 - 9. Additionally, for Source ID(s) 6 - 9, report the calendar year cumulative hours of operation for each source through the end of the reporting period.
- 7.2 In the operating report required by condition 47, report the calendar year cumulative hours of operation of Source ID(s) 1 and 2 on liquid fuel for each source through the end of the reporting period.

[18 AAC 50.350(i), 1/18/97]

BACT Emission Limits -Source ID(s) 1 through 3, and 5

8. The Permittee shall limit actual emissions from Source ID(s) 1 through 3, and 5 as indicated in Table 2 below.

[Operating Permit No. 9423-AA003, Exhibit B, 7/30/96]
[18 AAC 50.350(d)(1)(D), 1/18/97]

- 8.1 Notify the Department per condition 45 should the annual average CO emission rates (lb/MMscf of fuel) for any source exceed the limits in Table 2.

- 8.2 Monitor compliance with the short-term NO_x emission limits in Table 2 as provided in condition 16. Emission data from another representative turbine may be substituted if the Permittee demonstrates that test results from the other turbine are less than 90 percent of the applicable emission limits from Table 2 and are projected to be less than 90 percent of the applicable limits at maximum load.
- 8.3 For each turbine in condition 8 with test results that are 90 percent or more of the applicable short-term NO_x emission limits in Table 2 or for which emissions will equal or exceed 90 percent of the applicable emission limits at maximum load, the Permittee shall conduct an additional Method 20 test on that turbine within one year of the previous test. The Permittee shall conduct at least one additional test per year until at least two consecutive tests show that emissions from the turbine are less than 90 percent of the applicable limits at loads up to the maximum load.
- 8.4 Notify the department as required by condition 45 if the emissions of nitrogen oxides, based on the most recent source test, exceed any of the ppm limits in Table 2.

[18 AAC 50.350(g) - (i), 5/3/02]
[Minor Permit No. AQ0009MSS01, April 7, 2006]

Table 2 - Turbine BACT Emission Limits

Pollutant	Source ID	Emission Limit per Individual Turbine
NO _x	1 through 3	121 ppmv
	5	146.6 ppmv
CO	1 through 3	109 lb/MMscf of fuel
	5	45 lb/MMscf of fuel

Notes: 1) All NO_x ppm limits are short-term.

2) All turbine emission limits for CO and NO_x refer to full load, ISO conditions @ 15 % O₂.

9. The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from Source ID(s) 1 through 5 listed in Table 1 to reduce visibility through the exhaust effluent by greater than 10 percent for more than three minutes in any one hour.

[Operating Permit No. 9423-AA003, 7/30/96]
[18 AAC 50.350(d)(1)(D), 1/18/97]

- 9.1 Monitor compliance with the opacity limit in this condition as provided in conditions 57 and 59.

[18 AAC 50.350(g), 1/18/97]
[Operating Permit No. 9423-AA003, 7/30/96]

Liquid Fuel Sulfur Monitoring

10. The Permittee shall burn only diesel fuel with an annual average sulfur content of no greater than 0.25%, by weight, and no single shipment of diesel fuel shall have a sulfur content of greater than 0.3%, by weight.

Report the fuel sulfur content of each shipment of diesel fuel received with the operating report required in condition 47.

[Operating Permit No. 9423-AA003, 7/30/96 & 18 AAC 50.350(d)(1)(D), 1/18/97]
[18 AAC 50.350(i), 1/18/97]

Federal New Source Performance Standards, Subpart A, for Source ID(s) 1 through 5

11. **NSPS Subpart A Startup, Shutdown, & Malfunction Requirements.** The Permittee shall maintain records of the occurrence and duration of any start-up, shutdown, or malfunction in the operation of Source ID(s) 1 through 5, any malfunctions of associated air-pollution control equipment, or any periods during which a continuous monitoring system or monitoring device for Source ID(s) 1 through 5 is inoperative.

[18 AAC 50.040(a)(1), 7/2/00 & 18 AAC 50.350(h), 5/3/02]
[40 C.F.R. 60.7(b), Subpart A, 7/1/02]

12. **NSPS Subpart A, Good Air Pollution Control Practice.** At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate Source ID(s) 1 through 5 including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions. The Department will determine whether acceptable operating and maintenance procedures are being used based on information available to the Department which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance records, and inspections of Source ID(s) 1 through 5.

[18 AAC 50.350(h), 5/3/02]
[18 AAC 50.040(a)(1), 7/2/00]
[40 C.F.R. 60.11(d), Subpart A, 7/1/02]
[18 AAC 50.350(d)(1)(D), 6/21/98]

13. **NSPS Subpart A, Concealment of Emissions.** The Permittee shall not build, erect, install, or use any article, machine, equipment or process, the use of which conceals an emission which would otherwise constitute a violation of a standard set forth in conditions 15 and 17. Such concealment includes, but is not limited to, the use of gaseous diluents to achieve compliance with an opacity standard or with a standard that is based on the concentration of a pollutant in the gases discharged to the atmosphere.

[18 AAC 50.040(a)(1), 7/2/00]
[40 C.F.R. 60.12, Subpart A, 7/01/01]

- 14. NSPS Subpart A, Credible Evidence.** For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of the standards set forth in conditions 15 and 17 nothing in 40 C.F.R. Part 60 shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether Source ID(s) 1 through 5 would have been in compliance with the applicable requirements of 40 C.F.R. Part 60 if the appropriate performance or compliance test or procedure had been performed.

[18 AAC 50.040(a)(1), 8/15/02]
[40 C.F.R. 60.11(g), Subpart A, 7/1/01]

Turbines Subject to NSPS Subpart GG, Source ID(s) 1 through 5

- 15. NSPS Subpart GG NO_x Standard.** The Permittee shall not allow the corrected exhaust gas concentration of NO_x in ppm from Source IDs 1 through 5 to exceed the following except during startup, shutdown or malfunction periods:

15.1 For Source ID 1 - 167.6 ppmv NO_x at 15 percent O₂ and ISO conditions.

15.2 For Source ID 2 - 167.6 ppmv NO_x at 15 percent O₂ and ISO conditions.

15.3 For Source ID 3 - 168.7 ppmv NO_x at 15 percent O₂ and ISO conditions.

15.4 For Source ID 4 - 200.9 ppmv NO_x at 15 percent O₂ and ISO conditions.

15.5 For Source ID 5 - 191.2 ppmv NO_x at 15 percent O₂ and ISO conditions.

[18 AAC 50.040(a)(2)(V), 7/2/00]
[40 C.F.R. 60.332(a)(2) and 60.8(c), Subpart GG 7/1/01]

- 16. NO_x Monitoring, Recordkeeping, and Reporting for NSPS Subpart GG Turbines**

16.1 Periodic Testing.

- a. Initial Periodic Testing. For each turbine subject to condition 15 that operates for 400 hours or more in any 12-month period during the life of this permit, the Permittee shall satisfy either condition 16.1a(i) or 16.1a(ii).
 - (i) For existing turbines not represented by emission data described in condition 16.1a(ii), the Permittee shall conduct a NO_x and O₂ source test under 40 C.F.R. 60, Appendix A-7, Method 20 within three years after issuance of this permit

1. for each turbine, or
 2. on one turbine to represent a group of turbines, if allowed to do so under condition 16.2.
- (ii) If a test following 40 C.F.R. 60, Appendix A-7, Method 20 or following another protocol approved by the Department has been conducted on a turbine within two years before the issuance date of this permit, and the test shows that emissions at maximum load are less than 90 percent of the emission limit in condition 15, then
1. the Permittee may use those test results to represent emissions from that turbine or for a group of turbines if allowed under condition 16.2 until the testing of condition 16.1a(ii)2 is performed; and
 2. the Permittee shall conduct a Method 20 test on each turbine, or on one of a group of turbines as allowed under condition 16.2, within the 5 years of the permit term.
- b. **Higher Tier Testing.** For each turbine with test results under condition 16.1a that are 90 percent or more of the emission limit of condition 15, or for which emissions will equal or exceed 90 percent of the emission limit at maximum load, as shown through condition 16.3, the Permittee shall conduct an additional Method 20 test for the turbine within one year of the test under condition 16.1a. The Permittee shall conduct at least one additional test per year until at least two consecutive tests show that emissions for the turbine are less than 90 percent of the limit at loads up to maximum load.
- 16.2 Substituting Test Data.** The Permittee may use a Method 20 test under conditions 16.1a or 16.1b performed on only one of a group of turbines to satisfy the requirements of those conditions for the other turbines in the group if
- a. the Permittee demonstrates that test results are less than 90 percent of the emission limit of condition 15 and are projected under condition 16.3 to be less than 90 percent of the limit at maximum load;
 - b. for any source test done after the issuance date of this permit, the Permittee identifies in a source test plan under condition 37.
 - (i) the turbine to be tested;
 - (ii) the other turbines in the group that are to be represented by the test; and
 - (iii) why the turbine to be tested is representative, including that each turbine in the group

1. is located at a facility operated and maintained by the Permittee;
 2. is the same family and make and has the same injector and combustor designs; and
 3. uses the same fuel type; and
- c. for any source test done before the issuance date of this permit and used under condition 16.1a(ii), the Permittee
- (i) demonstrates why the test results are representative of emissions from the entire group of turbines, including that each turbine in the group
 1. is located at a facility operated and maintained by the Permittee;
 2. is the same family and make and has the same injector and combustor designs;
 3. uses the same fuel type; and
 - (ii) submits all results of source testing that has been performed by the Permittee on each turbine in the group, regardless of the date of the test, and certifies that the submittal is complete, consistent with 18 AAC 50.205.

16.3 Load.

- a. The Permittee shall conduct all tests under condition 16.1 in accordance with 40 C.F.R. 60.335(c)(3), except as otherwise approved in writing by the Department, or by EPA if the circumstances at the time of the EPA approval are still valid. For the highest load condition, if it is not possible to operate the turbine during the test at maximum load, the Permittee will test the turbine when operating at the highest load achievable by the turbine under the ambient and facility operating conditions in effect at the time of the test.
- b. The Permittee shall demonstrate in the source test plan for any test performed after the issue date of this permit whether the test is scheduled when maximum NO_x emissions are expected.
- c. If the highest operating rate tested is less than the maximum load of the tested turbine or another turbine represented by the test data,
 - (i) for each such turbine the Permittee shall provide to the Department as an attachment to the source test report

1. additional test information from the manufacturer or from previous testing of units in the group of turbines; if using previous testing of the group of turbines, the information must include all available test data for the turbines in the group, and
 2. a demonstration based on the additional test information that projects the test results from condition 16.1 to predict the highest load at which emissions will comply with the limit in condition 15;
- (ii) the Permittee shall not operate any turbine represented by the test data at loads for which the Permittee's demonstration predicts that emissions will exceed the limit of condition 15;
- (iii) the Permittee shall comply with a written finding prepared by the Department that
1. the information is inadequate for the Department to reasonably conclude that compliance is assured at any load greater than the test load, and that the Permittee must not exceed the test load;
 2. the highest load at which the information is adequate for the Department to reasonably conclude that compliance assured is less than maximum load, and the Permittee must not exceed the highest load at which compliance is predicted, or
 3. the Permittee must retest during a period of greater expected demand on the turbine; and
- (iv) the Permittee may revise a load limit by submitting results of a more recent Method 20 test done at a higher load, and, if necessary, the accompanying information and demonstration described in condition 16.3c(i); the new limit is subject to any new Department finding under condition 16.3c(iii) and
- d. In order to perform a Method 20 emission test, the Permittee may operate a turbine at a higher load than that prescribed by condition 16.3c.
- e. For the purposes of conditions 16.1a through 16.5, maximum load means the hourly average load that is the smallest of
- (i) 100 percent of manufacturer's design capacity of the gas turbine at ISO standard day conditions;
 - (ii) the highest load allowed by an enforceable condition that applies to the turbine; or
 - (iii) the highest load possible considering permanent physical restraints on the turbine or the equipment which it powers.

16.4 Recordkeeping.

- a. The Permittee shall comply with the following for each turbine for which a demonstration under condition 16.3c does not show compliance with the limit of condition 15 at maximum load.
 - (i) The Permittee shall keep records of
 - 1. load; or
 - 2. as approved by the Department, surrogate measurements for load and the method for calculating load from those measurements.
 - (ii) Records in condition 16.4a shall be hourly or otherwise as approved by the Department.
 - (iii) Within one month after submitting a demonstration under condition 16.3c(i)2 that predicts that the highest load at which emissions will comply is less than maximum load, or within one month of a Department finding under condition 16.3c(iii), whichever is earlier, the Permittee shall propose to the Department how they will measure load or load surrogates, and shall propose and comply with a schedule for installing any necessary equipment and beginning monitoring. The Permittee shall comply with any subsequent Department direction on the load monitoring methods, equipment, or schedule.
- b. For any turbine subject to condition 15, that will operate less than 400 hours in any 12 consecutive months, keep monthly records of the hours of operation. If a turbine that normally operates less than 400 hours exceeds that total during any 12-month period,
 - (i) test according to condition 16.1; or
 - (ii) if it is no longer possible to meet that schedule, test within one year of exceeding 400 hours in 12 consecutive months.

16.5 Reporting.

- a. In each operating report under condition 47 the Permittee shall list for each turbine tested or represented by testing at less than maximum load and for which the Permittee must limit load under condition 16.3c
 - (i) the load limit;
 - (ii) the turbine identification; and

- (iii) the highest load recorded under condition 16.4a during the period covered by the operating report.
- b. In each operating report under condition 47 for each turbine for which the testing described in condition 16.1 was not required because the turbine normally operates less than 400 hours in any 12 months, the Permittee shall identify
 - (i) the turbine;
 - (ii) the highest number of operating hours for any 12 months ending during the period covered by the report; and
 - (iii) any turbine that operated for 400 or more hours.
- c. The Permittee shall report under condition 45 if
 - (i) a test result exceeds the emission standard;
 - (ii) Method 20 testing is required under condition 16.1 or 16.4b but not performed, or
 - (iii) the turbine was operated at a load exceeding that allowed by conditions 16.3c(ii) and 16.3c(iii); exceeding a load limit is deemed a single violation rather than a multiple violation of both the load limit and the underlying emission limit.

[18 AAC 50.350(g) - (i), 5/3/02, 50.220(a) - (c), 1/18/97, & 50.040(a)(1), 7/2/00]
[40 C.F.R. 60.8(b), 7/01/01]

17. NSPS Subpart GG Sulfur Standard. The fuel used in Source ID(s) 1 through 5 shall have a sulfur content not exceeding 0.8 percent by weight.

[18 AAC 50.040(a)(2)(V), 7/2/00]
[40 C.F.R. 60.333(b), Subpart GG, 7/01/01]

- 17.1 Fuel gas sulfur monitoring shall be performed semi-annually for fuel gas with a hydrogen sulfide concentration less than 2,000 ppmw and daily for fuel gas with a hydrogen sulfide concentration greater than 2,000 ppmw. The hydrogen sulfide concentration used to determine the frequency shall be the most recent sample of the gas burned. Sampling results shall be reported annually to EPA Region 10 (Air Enforcement and Program Support Unit).

- 17.2 If the quality of fuel changes such that sulfur content increase substantially or the source of the fuel changes, UOCC shall sample for sulfur within two weeks of the change and shall notify EPA within 30 days.

[40 C.F.R. 60.334(b), Subpart GG; 7/01/01]
[EPA Custom Fuel Monitoring Schedule for UOCC Cook Inlet Facilities, 10/17/02]

- 17.3 Monitor sulfur content of the fuel gas using the length of stain tube test described in ASTM Method D 4810-88 and D 4913-89, or Gas Producer's Association Method 2377-86, or another method approved by the EPA Administrator or his/her designee.

[EPA Custom Fuel Monitoring Schedule for UOCC Cook Inlet Facilities, 10/17/02]
[40 C.F.R. 60.334(b)(2), Subpart GG, 7/01/01]

- 17.4 The fuel sulfur analysis required under condition 17.1 may be performed by the owner or operator, a service contractor retained by the owner or operator, the fuel vendor, or any other qualified agency.

[40 C.F.R. 60.335(e), 7/01/01]

- 17.5 The requirements of this condition are superceded in the event that the EPA issues a revised alternative fuel monitoring schedule for the Steelhead Platform turbines.

[18 AAC 50.350(g) - (i), 5/3/02]

- 17.6 Recordkeeping – Keep records of analysis performed under condition 17.1.

- 17.7 Reporting – Submit a summary report of the results from condition 17.1 with the operating report required by condition 47.

[18 AAC 50.350(g) - (i), 5/3/02]

- 17.8 Report per condition 45 when the emission limit in condition 17 is exceeded.

[18 AAC 50.350(i), 7/2/00]
[18 AAC 50.040(a)(2)(V), 7/2/00]
[Federal Citation: 40 C.F.R. 60.333(a) & (b), 7/1/01]

Section 6. Insignificant Source

This section contains the requirements that the Permittee identified under 18 AAC 50.335(q)(2) as applicable to insignificant sources at the facility. This section also specifies the testing, monitoring, recordkeeping, and reporting for insignificant sources that the Department finds necessary to ensure compliance with the applicable requirements. Insignificant sources are not exempted from any air quality control requirement or federally enforceable requirement.

As set out in 18 AAC 50.350(m), the shield of AS 46.14.170, does not apply to insignificant sources

18. For sources at the facility that are insignificant as defined in 18 AAC 50.335(q)-(v) that are not listed in this permit, the following apply:
 - 18.1 the Permittee shall submit the compliance certifications of condition 48 based on reasonable inquiry;
 - 18.2 the Permittee shall comply with the requirements of condition 28;
 - 18.3 no other monitoring, recordkeeping, or reporting is required.
[18 AAC 50.346(b)(1), 5/3/02]
19. The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from insignificant sources to reduce visibility through the exhaust effluent by any of the following:
 - 19.1 greater than 20 percent for a total of more than three minutes in any one hour²,
or
[18 AAC 50.050(a)(2) & 18 AAC 50.055(a)(1), 1/18/97 & 40 C.F.R. 52.70, 11/18/98]
 - 19.2 more than 20 percent averaged over any six consecutive minutes.
[18 AAC 50.055(a)(1), 5/3/02]
20. The Permittee shall not cause or allow particulate matter emitted from an industrial process or fuel-burning equipment to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.
[18 AAC 50.055(b)(1), 1/18/97]
21. The Permittee shall not cause or allow sulfur compound emissions, expressed as SO₂, from an industrial process or fuel-burning equipment, to exceed 500 ppmv averaged over three hours.
[18 AAC 50.055(c), 1/18/97]

² See footnote 1

Section 7. Generally Applicable Requirements

- 22. Asbestos NESHAP.** The Permittee shall comply with the requirements set forth in 40 C.F.R. 61.145, 61.150, and 61.152 of Subpart M and the applicable sections set forth in 40 C.F.R. 61, Subpart A and Appendix A.

[18 AAC 50.040(b)(3), 8/15/02 & 50.350(d)(1), 1/18/97]
[40 C.F.R. 61, Subparts A & M and Appendix A, 7/1/99]

- 23. Halon Recycling and Disposal.** The Permittee shall comply with the applicable standards for recycling and emission reduction of ozone depleting substances set forth in 40 C.F.R. Part 82, Subparts F, G, and H.

[18 AAC 50.040(d) & 50.350(d)(1), 1/18/97]
[40 C.F.R. Part 82, Subparts F, G, & H; 7/1/01]

- 24. Good Air Pollution Control Practice³.** The Permittee shall do the following for Sources ID(s) 6 through 13:

- 24.1 perform regular maintenance considering the manufacturer's or the operator's maintenance procedures;
- 24.2 keep records of any maintenance that would have a significant effect on emissions; the records may be kept in electronic format;
- 24.3 keep a copy of either the manufacturer's or the operator's maintenance procedures.

[18 AAC 50.346(b)(2), 5/3/02]

- 25. Dilution.** The Permittee shall not dilute emissions with air to comply with this permit.

[18 AAC 50.045(a), 1/18/97]

- 26. Stack Injection.** The Permittee shall not release materials other than process emissions, products of combustion, or materials introduced to control pollutant emissions from a stack at a source constructed or modified after November 1, 1982, unless approved in writing by the Department.

[18 AAC 50.055(g), 1/18/97]

- 27. Open Burning.** The Permittee shall not conduct open burning at the facility.

[18 AAC 50.350(f)(4), 1/18/97]

- 28. Air Pollution Prohibited.** The Permittee shall not cause any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property.

[18 AAC 50.110, 5/26/72]

³ Condition 24 is enforceable only by the State until the new regulations, dated May 3, 2002, are approved by EPA into the SIP at which time this standard becomes federally enforceable.

Monitoring, Recordkeeping, and Reporting for Air Pollution Prohibited

- 28.1** If emissions present a potential threat to human health or safety, the Permittee shall report any such emissions according to condition 45.
- 28.2** As soon as practicable after becoming aware of a complaint that is attributable to emissions from the facility, the Permittee shall investigate the complaint to identify emissions that the Permittee believes have caused or are causing a violation of condition 28.
- 28.3** The Permittee shall initiate and complete corrective action necessary to eliminate any violation identified by a complaint or investigation as soon as practicable if
- a. after an investigation because of a complaint or other reason, the Permittee believes that emissions from the facility have caused or are causing a violation of condition 28; or
 - b. the department notifies the Permittee that it has found a violation of condition 28.
- 28.4** The Permittee shall keep records of
- a. the date, time, and nature of all emissions complaints received;
 - b. the name of the person or persons that complained, if known;
 - c. a summary of any investigation, including reasons the Permittee does or does not believe the emissions have caused a violation of condition 28; and
 - d. any corrective actions taken or planned for complaints attributable to emissions from the facility.
- 28.5** With each operating report under condition 47, the Permittee shall include a brief summary report which must include
- a. the number of complaints received;
 - b. the number of times the Permittee or the department found corrective action necessary;
 - c. the number of times action was taken on a complaint within 24 hours; and
 - d. the status of corrective actions the Permittee or department found necessary that were not taken within 24 hours.

- 28.6 The Permittee shall notify the department of a complaint that is attributable to emissions from the facility within 24 hours after receiving the complaint, unless the Permittee has initiated corrective action within 24 hours of receiving the complaint.

[18 AAC 50.346(a)(2) & 18 AAC 50.350(h) – (i), 5/3/02]

29. **Technology-Based Emission Standard.** If an unavoidable emergency, malfunction, or non-routine repair, as defined in 18 AAC 50.235, causes emissions in excess of a technology-based emission standard⁴, the Permittee shall take all reasonable steps to minimize levels of emissions that exceed the standard. Excess emissions reporting under condition 45 requires information on the steps taken to minimize emissions. The report required under condition 45 is adequate monitoring for compliance under this condition.

[18 AAC 50.235(a) & 50.350(f)(3), 1/18/97]

30. **Permit Renewal.** To renew this permit, the Permittee shall submit a complete application under 18 AAC 50.335 no sooner than **March 1, 2007** and no later than **March 1, 2008**.

[18 AAC 50.335(a), 1/18/97]

⁴ *Technology-based emission standard* means a best available control technology standard (BACT); a lowest achievable emission rate standard (LAER); a maximum achievable control technology standard established under 40 C.F.R. 63, Subpart B, adopted by reference in 18 AAC 50.040(c); a standard adopted by reference in 18 AAC 50.040(a) or (c); and any other similar standard for which the stringency of the standard is based on determinations of what is technologically feasible, considering relevant factors.

Section 8. General Source Testing and Monitoring Requirements

- 31. Requested Source Tests.** In addition to any source testing explicitly required by this permit, the Permittee shall conduct source testing as requested by the department to determine compliance with applicable permit requirements.

[18 AAC 50.220(a) 1/18/97 & 18 AAC 50.345(a)&(k), 5/3/02]

- 32. Operating Conditions.** Unless otherwise specified by an applicable requirement or test method, the Permittee shall conduct source testing

[18 AAC 50.220(b) & 50.350(g), 1/18/97]

32.1 at a point or points that characterize the actual discharge into the ambient air;
and

32.2 at the maximum rated burning or operating capacity of the source or another rate determined by the department to characterize the actual discharge into the ambient air. This requirement does not apply to visible emissions tests conducted pursuant to Section 12.

- 33. Reference Test Methods.** Except as approved by the Department, the Permittee shall use the following as reference test methods when conducting source testing for compliance with this permit:

33.1 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(a) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60.

[18 AAC 50.040(a), 8/15/02]
[18 AAC 50.220(c)(1)(A) & 50.350(g), 1/18/97]
[40 C.F.R. 60, 7/1/01]

33.2 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(b) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 61.

[18 AAC 50.040(b), 8/15/02; 50.220(c)(1)(B) & 50.350(g), 1/18/97]
[40 C.F.R. 61, 12/19/96]

33.3 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(c) must be conducted in accordance with the source test methods and procedures specified in 40 C.F.R. 63.

[18 AAC 50.040(c), 6/1/02]
[18 AAC 50.220(c)(1)(C) & 50.350(g), 1/18/97]
[40 C.F.R. 63, 7/1/01]

- 33.4 Source testing for the reduction in visibility through the exhaust effluent must be conducted in accordance with the procedures set out in Reference Method-9 and may use the form in Section 13 to record data.
[18 AAC 50.030, 5/3/02]
[18 AAC 50.220(c)(1)(D) & 50.350(g), 1/18/97]
- 33.5 Source testing for emissions of particulate matter, sulfur compounds, nitrogen compounds, carbon monoxide, lead, volatile organic compounds, fluorides, sulfuric acid mist, municipal waste combustor organics, metals, and acid gases must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60, Appendix A.
[18 AAC 50.040(a)(4), 8/15/02]
[18 AAC 50.220(c)(1)(E) & 50.350(g), 1/18/97]
[40 C.F.R. 60, Appendix A, 7/1/01]
- 33.6 Source testing for emissions of PM-10 must be conducted in accordance with the procedures specified in 40 C.F.R. 51, Appendix M, Methods 201 or 201a and 202.
[18 AAC 50.220(c)(1)(F) & 18 AAC 50.350(g), 1/18/97 & 18 AAC 50.035(b)(2), 7/2/00]
[40 C.F.R. 51, Appendix M, 7/1/01]
- 33.7 Source testing for emissions of any contaminant may be determined using an alternative method approved by the Department in accordance with 40 C.F.R. 63 Appendix A, Method 301.
[18 AAC 50.220(c)(2) & 50.350(g), 1/18/97 & 18 AAC 50.040(c)(19), 7/2/00]
[40 C.F.R. 63, Appendix A, Method 301, 4/5/02]
34. **Excess Air Requirements.** To determine compliance with this permit, standard exhaust gas volumes must only include the volume of gases formed from the theoretical combustion of fuel, plus the excess air volume normal for the specific source type, corrected to standard conditions (dry gas at 68° F and an absolute pressure of 760 millimeters of mercury).
[18 AAC 50.220(c)(3) & 18 AAC 50.350(g); 1/18/97; & 18 AAC 50.990(88), 5/3/02]
35. **Test Exemption.** The Permittee is not required to comply with conditions 32.2, 37, 38, and 39 (Operating Conditions, Test Plans, Test Notifications and Test Reports) when the exhaust is observed for visible emissions by condition 59 or condition 60.
[18 AAC 50.345(a), 5/3/02]
36. **Test Deadline Extension.** The Permittee may request an extension to a source test deadline established by the department. The Permittee may delay a source test beyond the original deadline only if the department's appropriate division director or designee approves the extension in writing. This is a state-only condition.
[18 AAC 50.345(a)&(l), 5/3/02]

- 37. Test Plans.** Before conducting any source tests, the Permittee shall submit a plan to the department. The plan must include the methods and procedures to be used for sampling, testing, and quality assurance, and must specify how the source will operate during the test and how the Permittee will document this operation. The Permittee shall submit a complete plan within 60 days of receiving a request under condition 32 and at least 30 days before the scheduled date of any test unless the department agrees in writing to some other time period. Retesting may be done without resubmitting the plan. The Permittee is not required to comply with this condition when the exhaust is observed for visible emissions.

[18 AAC 50.350(b)(3) & 18 AAC 50.350(g), 1/18/97; & 18 AAC 50.345(a)&(m), 5/3/02]

- 38. Test Notification.** At least 10 days before conducting a source test, the Permittee shall give the department written notice of the date and the time the source test will begin. The Permittee is not required to comply with this condition when the exhaust is observed for visible emissions.

[18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.345(a)&(n), 5/3/02]

- 39. Test Reports.** Within 60 days after completing a source test, the Permittee shall submit two copies of the results, to the extent practical, in the format set out in the *Source Test Report Outline* of Volume III, Section IV.3 of the State Air Quality Control Plan, adopted by reference in 18 AAC 50.030. The Permittee shall certify the results as set out in 18 AAC 50.345(j). If requested in writing by the department, the Permittee must provide preliminary results in a shorter period of time specified by the department. The Permittee is not required to comply with this condition when the exhaust is observed for visible emissions.

[18 AAC 50.350(b)(3), 1/18/97; 18 AAC 50.350(h) – (i) & 18 AAC 50.345(a)&(o), 5/3/02]

- 40. Particulate Matter Calculations.** In source testing for compliance with the particulate matter standards in conditions 4 and 20, the three-hour average is determined using the average of three one-hour test runs.

[18 AAC 50.220(f) & 50.350(g), 1/18/97]

Section 9. General Recordkeeping, Reporting, and Compliance Certification Requirements

- 41. Certification.** The Permittee shall certify all reports, compliance certifications, or other documents submitted to the department and required under the permit by including the signature of a responsible official for the permitted facility following the statement: "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete." Excess emission reports must be certified either upon submittal or with an operating report required for the same reporting period. All other reports and other documents must be certified upon submittal.
- [18 AAC 50.345(a) & (j), 5/3/02; 18 AAC 50.205 & 50.326(j), 10/1/04]
- 42. Submittals.** Unless otherwise directed by the Department or this permit, the Permittee shall send reports, compliance certifications, and other submittals required by this permit to ADEC, Air Permits Program, 610 University Ave., Fairbanks, AK 99709-3643, ATTN: Compliance Technician. The Permittee may, upon consultation with the Compliance Technician regarding software compatibility, provide electronic copies of data reports, emission source test reports, or other records under a cover letter certified in accordance with condition 41.
- [18 AAC 50.350(i), 1/18/97]
- 43. Information Requests.** The Permittee shall furnish to the department, within a reasonable time, any information the department requests in writing to determine whether cause exists to modify, revoke and reissue, or terminate the permit or to determine compliance with the permit. Upon request, the Permittee shall furnish to the department copies of records required to be kept by this permit. The department may require the Permittee to furnish copies of those records directly to the federal administrator.
- [18 AAC 50.200 & 18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.350(g) - (i) & 18 AAC 50.345(a)&(j), 5/3/02]
- 44. Recordkeeping Requirements.** The Permittee shall keep all records required by this permit for at least five years after the date of collection, including:
- 44.1 copies of all reports and certifications submitted pursuant to this section of the permit; and
 - 44.2 records of all monitoring required by this permit, and information about the monitoring including:
 - a. calibration and maintenance records, original strip chart or computer-based recordings for continuous monitoring instrumentation;
 - b. sampling dates and times of sampling or measurements;

- c. the operating conditions that existed at the time of sampling or measurement;
- d. the date analyses were performed;
- e. the location where samples were taken;
- f. the company or entity that performed the sampling and analyses;
- g. the analytical techniques or methods used in the analyses; and
- h. the results of the analyses.

[18 AAC 50.350(h), 5/3/02]
[40 C.F.R. 60.7(f), Subpart A, 7/1/01]

45. Excess Emission and Permit Deviation Reports.

45.1 Except as provided in condition 28, the Permittee shall report all emissions or operations that exceed or deviate from the requirements of this permit as follows:

- a. in accordance with 18 AAC 50.240(c), as soon as possible after the event commences or is discovered, report
 - (i) emissions that present a potential threat to human health or safety; and
 - (ii) excess emissions that the Permittee believes to be unavoidable;
- b. in accordance with 18 AAC 50.235(a), within two working days after the event commenced or was discovered, report an unavoidable emergency, malfunction, or nonroutine repair that causes emissions in excess of a technology based emission standard;
- c. report all other excess emissions and permit deviations
 - (i) within 30 days of the end of the month in which the emissions or deviation occurs or was discovered, except as provided in conditions 45.1c(ii) and 45.1c(iii);
 - (ii) if a continuous or recurring excess emissions is not corrected within 48 hours of discovery, within 72 hours of discovery unless the department provides written permission to report under condition 45.1c(i); and
 - (iii) for failure to monitor, as required in other applicable conditions of this permit.

- 45.2 When reporting excess emissions, the Permittee must report using either the department's on-line form, which can be found at
- 45.3 <http://www.dec.state.ak.us/air/ap/docs/c4.pdf>, or, if the Permittee prefers, the form contained in Section 15 of this permit. The Permittee must provide all information called for by the form that is used.
- 45.4 When reporting a permit deviation, the Permittee must report using the form contained in Section 15 of this permit. The Permittee must provide all information called for by the form.
- 45.5 If requested by the department, the Permittee shall provide a more detailed written report as requested to follow up an excess emissions report.
[18 AAC 50.235(a)(2), 18 AAC 50.240(c) & 18 AAC 50.350(i), 1/18/97 & 18 AAC 50.346(c), 5/3/02]
[18 AAC 50.235(a)(2), 18 AAC 50.240(c), & 50.350(i), 1/18/97]
- 46. NSPS and NESHAP Reports.** The Permittee shall:
- 46.1 Attach to the report required by condition 47 a copy of any NSPS and NESHAPs reports submitted to the U.S. Environmental Protection Agency (EPA) Region 10 unless previously submitted to the Department.
- 46.2 Upon request by the Department, notify and provide a written copy of any EPA granted waiver of the federal emission standards, recordkeeping, monitoring, performance testing, or reporting requirements, or approved custom monitoring schedules.
[18 AAC 350(i)(2), 1/18/97 & 18 AAC 50.040, 7/2/00]
[Federal Citation 40 C.F.R. 60 & 40 C.F.R. 61, 7/1/01]
- 47. Operating Reports.** During the life of this permit, the Permittee shall submit to the Department an original and two copies of an operating report by August 1 for the period January 1 to June 30 of the current year and by February 1 for the period July 1 to December 31 of the previous year.
- 47.1 The operating report must include all information required to be in operating reports by other conditions of this permit.
- 47.2 If excess emissions or permit deviations that occurred during the reporting period are not reported under condition 47.1, either
- a. The Permittee shall identify
- (i) the date of the deviation;
 - (ii) the equipment involved;
 - (iii) the permit condition affected;

- (iv) a description of the excess emissions or permit deviation; and
- (v) any corrective action or preventive measures taken and the date of such actions; or

- b. when excess emissions or permit deviations have already been reported under condition 45 the Permittee may cite the date or dates of those reports.

[18 AAC 50.350(d)(4), 18 AAC 50.350(f)(3) & 18 AAC 50.350(i), 1/18/97 & 18 AAC 50.345(a)&(j), 5/3/02]

47.3 The operating report must include a listing of emissions monitored under conditions 15, 17, and 59 which trigger additional testing or monitoring, whether or not the emissions monitored, exceed an emission standard. The Permittee shall include in the report

- a. the date of the emissions;
- b. the equipment involved;
- c. the permit condition affected; and
- d. the monitoring result which triggered the additional monitoring.

[18 AAC 50.350(d)(4), (f)(3) & (i); 1/18/97 & 18 AAC 50.346(b)(3), 5/3/02]

48. Annual Compliance Certification. Each year by March 31st, the Permittee shall compile and submit to the Department one original and one copy of an annual compliance certification report as follows:

48.1 For each permit term and condition set forth in Section 4 through Section 9 including terms and conditions for monitoring, reporting, and recordkeeping:

- a. certify the compliance status over the preceding calendar year consistent with the monitoring required by this permit;
- b. state whether compliance is intermittent or continuous; and
- c. briefly describe each method used to determine the compliance status.

48.2 Submit a copy of the report directly to the EPA-Region 10, Office of Air Quality, M/S OAQ-107, 1200 Sixth Avenue, Seattle, WA 98101.

[18 AAC 50.205 & 50.326(j), 10/1/04 & 50.345(a) & (j), 5/03/02]

[40 C.F.R. 71.6(c)(5), 7/1/03]

Section 10. Standard Conditions Not Otherwise Included in the Permit

49. The Permittee must comply with each permit term and condition. Noncompliance constitutes a violation of AS 46.14, 18 AAC 50, and, except for those terms or conditions designated as not federally-enforceable, the Clean Air Act, and is grounds for:

49.1 an enforcement action,

49.2 permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280, or

49.3 denial of an operating-permit renewal application.

[18 AAC 50.350(b)(3), 1/18/97 18 AAC 50.345(a)&(c), 5/3/02]

50. It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.

[18 AAC 50.350(b)(3), 1/18/97 18 AAC 50.345(a)&(d), 5/3/02]

51. Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of this permit.

[18 AAC 50.350(b)(3), 1/18/97 18 AAC 50.345(a)&(e), 5/3/02]

52. Compliance with permit terms and conditions is considered to be compliance with those requirements that are:

52.1 included and specifically identified in the permit, or

52.2 determined in writing in the permit to be inapplicable.

[18 AAC 50.350(b)(3), 1/18/97 18 AAC 50.345(a)&(b), 5/3/02]

53. The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the Permittee for modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any operating permit condition.

[18 AAC 50.350(b)(3), 1/18/97 18 AAC 50.345(a)&(f), 5/3/02]

54. The permit does not convey any property rights of any sort, nor any exclusive privilege.

[18 AAC 50.350(b)(3), 1/18/97 18 AAC 50.345(a)&(g), 5/3/02]

55. The Permittee shall allow an officer or employee of the Department or an inspector authorized by the Department, upon presentation of credentials and at reasonable times with the consent of the owner or operator, to:

-
- 55.1 enter upon the premises where a source subject to the operating permit is located or where records required by the permit are kept,
 - 55.2 have access to and copy any records required by the permit,
 - 55.3 inspect any facilities, equipment, practices, or operations regulated by or referenced in the permit, and
 - 55.4 sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.

[18 AAC 50.350(b)(3), 1/18/97 18 AAC 50.345(a)&(h), 5/3/02]

Section 11. Permit As Shield from Inapplicable Requirements

In accordance with AS 46.14.170, and based on information supplied in the facility application, this section of the permit contains the requirements determined by the Department not to be applicable to the **Steelhead Platform**.

56. Table 3 identifies the sources and facility classifications that are not subject to the specified requirements at the time of permit issuance. If any of the requirements in Table 3 become applicable during the permit term, the Permittee shall comply with such requirements on a timely basis including, but not limited to, providing appropriate notification to EPA, obtaining a construction, and/or an operating permit revision.

[18 AAC 50.350(l), 1/18/97]

Table 3 - Permit Shields Granted.

Source ID	Non Applicable Requirements	Reason for non-Applicability
Facility	40. C. F. R. 60 Subparts B, C, Ca, Cb, Da, Db, Dc, Ea, Eb, F, G, H, I, J, K, Ka, L, M, N, Na, O, P, Q, R, S, T, U, V, W, X, Y, Z,	No "affected facilities" within the permitted facility.
Source ID 14	40. C. F. R. 60 Subparts A and Kb, except for 60.110b(c) & 116b(a) & (b)	Only recordkeeping required per exemption contained in 40 C.F.R. 60.110b(c). Tank does not meet the size and vapor pressure threshold values contained in 40 C.F.R. 60.110b(a) or (b)
Facility	40. C. F. R. 60 Subparts AA, AAa, BB, CC, DD, EE, FF, HH, KK, LL, MM, NN, PP, QQ, RR, SS, TT, UU, VV, WW, XX	No "affected facilities" within the permitted facility.
Facility	40 C.F.R. 60 Subparts AAA, BBB, DDD, FFF, GGG, HHH, III, JJJ, KKK, LLL, NNN, OOO, PPP, QQQ, RRR, SSS, TTT, UUU, and VVV	No "affected facilities" within the permitted facility.
Facility	40 C.F.R. 61 Subparts B, C, D, E, F, H, I, J, K, L, N, O, P, Q, R, T, V, W, Y, BB and FF.	No "affected facilities" within the permitted facility.
Facility	40 C.F.R. 63 Subparts A, B, F, G H, L, M, N, O, Q, R, T, W, X, and EE	No "affected facilities" within the permitted facility.

Source ID	Non Applicable Requirements	Reason for non-Applicability
Facility	40 C.F.R. 63 Subparts HH & HHH	Facility is not a "major source" of HAPs as defined in 40 CFR 63.760(a). and 63.1271. In addition, permitted facility contains no "affected source" as defined in 40 CFR 63.760(b).
Facility	40 CFR 82.1 Subpart A -- Production and Consumption Controls	Facility does not produce, transform, destroy, import or export Class I or Group I or II substances or products.
Facility	40 CFR 82.30 Subpart B -- Servicing of Motor Vehicle Air Conditioners	Facility does not service motor vehicle air conditioners
Facility	40 CFR 82.60 Subpart C -Ban on Nonessential Products Containing Class I Substances and Ban on Nonessential Products Containing or Manufactured with Class II Substances	Facility is not a manufacturer or distributor of Class I and II products or substances.
Facility	40 CFR 82.80 Subpart D -- Federal Procurement	Subpart applies only to Federal departments, agencies, and instrumentalities.
Facility	40 CFR 82.100 Subpart E- The Labeling of Products Using Ozone-Depleting Substances.	Facility is not a manufacturer or distributor of Class I and II products or substances.
Facility	40 CFR 82.158 Subpart F -- Recycling and Emissions Reduction.	Facility does not manufacture or import recovery and recycling equipment.
Facility	40 CFR 82.160- Approved Equipment Testing Organizations	Facility does not contract equipment testing organizations to certify recovery and recycling equipment.
Facility	40 CFR 82.164 --Reclaimer Certification	Facility does not sell reclaimed refrigerant.
Facility	40 CFR 82, Subpart F, Appendix C -- Method for Testing Recovery Devices for Use With Small Appliances	Facility is not a third party entity that certifies recovery equipment.
Facility	40 CFR 82, Subpart F, Appendix D -- Standards for Becoming a Certifying Program for Technicians	Facility does not have a technician certification program.
Facility	40 CFR 82. 174(a) Subpart G -- Significant New Alternatives Policy Program: Prohibitions	Facility does not manufacture substitute chemicals or products for ozone-depleting compounds.
Facility	40 CFR 82.270(a) Subpart H - Halon Emissions Reduction	Facility does not manufacture halon.
Facility	18 AAC 50.055(a)(2), Fuel Burning equipment standards, opacity emission limit of 30%, 3-minute average	No affected sources within the permitted facility.
Facility	18 AAC 50.055(a)(4), (5) and (8), Fuel burning equipment standards, opacity emission limit of 20%, 6-minute average	No affected sources within the permitted facility.

Source ID	Non Applicable Requirements	Reason for non-Applicability
Facility	18 AAC 50.055(a)(6) and (7), Fuel burning equipment standards, opacity emission limit of 10%, 6-minute average	No affected sources within the permitted facility.
Facility	18 AAC 50.055(b)(2) and (3), Fuel burning equipment standards, PM emission limit of 0.1 grains	No affected sources within the permitted facility.
Facility	18 AAC 50.055(b)(4), Fuel burning equipment standards, PM emission limit of 0.15 grains	No affected sources within the permitted facility.
Facility	18 AAC 50.055(b)(5) and (6), Fuel burning equipment standards, PM emission limit of 0.04 grains	No affected sources within the permitted facility.
Facility	18 AAC 50.055(d) and (e), Fuel burning equipment standards	No affected sources within the permitted facility.
Facility	18 AAC 50.060, Pulp Mills	Not an affected facility, operation or industry.
Facility	18 AAC 50.070 Marine Vessels, visible emission standards	Not an affected facility, operation or industry.
Facility	18 AAC 50.075, Wood fired heating device emission standards	No affected sources within the permitted facility.
Facility	18 AAC 50.085, Volatile liquid storage tank emission standards	Regulations only apply to tanks within the Port of Anchorage.
Facility	18 AAC 50.090 Volatile liquid loading racks and delivery emission standards	Regulations only apply to facilities within the Port of Anchorage.
Source IDs 1 through 3, and 5	AQC Permit to Operate 8523-AA006, Condition 2 and Exhibit B, limit of 25 ppm H ₂ S in fuel.	Replaced by BACT limit in AQC Permit to Operate 9423-AA003.

Section 12. Visible Emissions and PM Monitoring, Recordkeeping and Reporting

For Source ID(s) 1 and 2 (when firing on gas) and Source ID(s) 3 through 5

57. Visible Emissions: Monitoring, Recordkeeping, and Reporting.

57.1 When firing Source ID(s) 1 and 2 only on fuel gas, the Permittee shall certify in each operating report required under condition 47 that the source burned only gas during that reporting period.

57.2 The Permittee shall use only gas as fuel in Source ID(s) 3 through 5. The Permittee shall certify in each operating report required under condition 47 that the source burned only gas.

57.3 The Permittee shall report under condition 45 if any fuel is burned other than gas in Source ID(s) 3 through 5.

[18 AAC 50.350(g) – (i) & 18 AAC 50.346(c), 5/3/02]

58. Particulate Matter Emissions: Monitoring, Recordkeeping, and Reporting. The Permittee shall comply with condition 57.

[18 AAC 50.350(g) – (i) & 18 AAC 50.346(c), 5/3/02]

For Source ID(s) 1 and 2 (when firing on liquid) and Source ID(s) 6 through 11

59. Visible Emissions Monitoring and Reporting. The Permittee shall perform visible emission monitoring and reporting for Source ID(s) 1, 2, and 6 through 11 as follows:

[18 AAC 50.350(g) – (i), 5/3/02]

59.1 Visible Emissions Monitoring – The Permittee shall perform an annual Method 9 visible emissions observation on Source ID(s) 6 through 11 if the operating hours exceed the threshold values in Table 4 below. Perform the observations, if required, between 10 and 14 months after the preceding observation on that source. The observation shall be conducted for 18 minutes to obtain 72 individual readings at 15-second intervals. If 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity greater than 20 percent, the Permittee shall perform corrective action under condition 60.

[18 AAC 50.350(f)(4), 1/18/97]

59.2 Visible Emissions Reporting – the Permittee shall include in the operating report required under condition 47 a summary of the results of all Method 9 readings performed during the reporting period under condition 59.1.

59.3 For Source ID(s) 1 and 2, if the operating hours on liquid fuel exceed 400 hours during any calendar year the Permittee shall:

- a. Notify the Department and begin monitoring the affected source according to conditions 59.1 and 59.2 no later than 15 days after the end of a calendar month in which the cumulative hours of operation for the calendar year exceed 400 hours on back-up liquid fuel.
- b. Report under condition 45 if the Permittee fails to comply with condition 59.3.

[18 AAC 50.350(g) – (i) & 18 AAC 50.346(c), 5/3/02]

60. Corrective Actions Based on Visible Emissions Observations. If required under condition 59.1, perform corrective action within 14 days and conduct a follow-up Method 9 observation under condition 59.1 within 30 days of completing the corrective action.

60.1 Recordkeeping – if applicable, keep a written record of the starting date, the completion date, and a description of any actions taken under condition 60 to reduce visible emissions.

60.2 Reporting – submit with the operating report required under condition 47 copies of any records required under condition 60.1.

[18 AAC 50.350(f)(4), 1/18/97 & 50.350(g) – (i), 5/3/02]

61. Particulate Matter Monitoring for Liquid-Fired Turbines and Engines. The Permittee shall conduct source tests on Source ID(s) 1, 2, and 6 through 11 to determine the concentration of particulate matter (PM) in the exhaust of a source in accordance with this condition 61:

61.1 Within six months of exceeding the criteria of condition 61.2a or 61.2b, either

- a. conduct a PM source test according to the requirements set out in Section 8; or
- b. make repairs so that emissions no longer exceed the criteria of condition 61.2 and observe emissions as described in 59 under load conditions comparable to when the initial opacity was documented.

61.2 Conduct the test according to condition 61.1 if

- a. 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity greater than 20 percent, or
- b. for a source with an exhaust stack diameter that is less than 18 inches, 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity that is greater than 15 percent and not more than 20 percent, unless the Department has waived this requirement in writing.

- 61.3 During each one-hour PM source test run, observe the exhaust for 18 minutes in accordance with Method 9 and calculate the average opacity that was measured during each one-hour test run. Submit a copy of these observations with the source test report.
- 61.4 The automatic PM source test requirement in conditions 61.1 and 61.2 is waived for an emissions unit if a PM source test on that unit has shown compliance with the PM standard during this permit term.
- 61.5 Monitor, record and report operating hours for Source ID(s) 6 through 11 as provided in conditions 6 and 7.

Table 4 - Insignificant Emission Units Thresholds.

Source ID	Operating Hours
6	163
7	305
8	1028
9	1028
10	255
11	255

[18 AAC 50.350(f)(4), 1/18/97 & 18 AAC 50.346(c), 50.350(g)-(i), 5/3/02]

- 62. Particulate Matter Reporting.** - The Permittee shall report as excess emissions under condition 45 any time the results of a source test for particulate matter (PM) exceeds the PM emission limit stated in condition 4.

[18 AAC 50.350(g) - (i), 5/3/02]

Visible Emission Observations for Flares-Source ID(s) 12 & 13

- 63. Visible Emissions Monitoring, Recordkeeping, and Reporting for Flares.** The Permittee shall observe the first six daylight flare events⁵ occurring at Source ID(s) 12 and 13 during the life of this permit⁶.

[18 AAC 50.350(g)-(i), 5/3/02]

63.1 Monitor flare events using Method-9.

63.2 Record the following information for the observed event:

- a. the flare(s) Source ID number;
- b. results of the Method-9 observations;
- c. reason(s) for flaring;
- d. date, beginning and ending time of event; and
- e. cumulative volume of gas flared from Source ID(s) 12 and 13.

63.3 Until monitoring has been completed on the six flare events described in this condition, the Permittee shall either monitor each qualifying flare event or include in the next report required by condition 47 an explanation of the reason the event was not monitored. Monitoring of a flare event may be postponed for safety or weather reasons, or because a qualified observer is not available.

63.4 Attach copies of the records required by condition 63.2 with the operating report required by condition 47.

63.5 Report under condition 45 whenever the opacity standard in condition 3 is exceeded.

[18 AAC 50.350(f)(4), 1/18/97 & 18 AAC 50.350(g)-(i), 5/3/02]

⁵ For purposes of this permit, a "flare event" is flaring of gas for greater than one hour as a result of scheduled lease operations, i.e. maintenance or well testing activities. It does not include non-scheduled lease operations, i.e. process upsets, emergency flaring, or de minimis venting of gas incidental to normal operations.

⁶ Flare events monitored within 12-months prior to permit effective date may count towards the six-event total.

Section 13. Visible Emissions Field Data Sheet

Certified Observer: _____

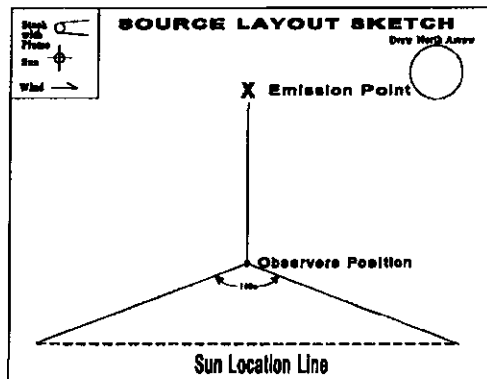
Company: _____

Location: _____

Test No.: _____ Date: _____

Source: _____

Hrs. of observation: _____



Clock Time	Initial				Final
Observer location					
Distance to discharge					
Direction from discharge					
Height of observer point					
Background description					
Weather conditions					
Wind Direction					
Wind speed					
Ambient Temperature					
Relative humidity					
Sky conditions: (clear, overcast, % clouds, etc.)					
Plume description:					
Color					
Distance visible					
Water droplet plume? (Attached or detached?)					
Other information					

Page ____ of ____

[illegible]

Certified By/Date

Duration of Observation Period (minutes) _____
 Duration Required by Permit (minutes) _____
 Number of Observations _____
 Number of Observations exceeding 20% _____
 In Compliance with Three Minute Aggregate Opacity Limit? (yes or no) _____
 Highest Six Minute Average Opacity (%) _____
 In Compliance with Six Minute Opacity Limit? (yes or no) _____

Test Number	Time Start—End	Opacity	
		Sum	Average

Section 14. SO₂ Material Balance Calculation

If the sulfur content of any fuel combusted is greater than 0.75% by weight, calculate the three-hour exhaust concentration of SO₂ using the following equations:

$$A = 31,200 \times [\text{wt}\%S_{\text{fuel}}] = 31,200 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$B = 0.148 \times [\text{wt}\%S_{\text{fuel}}] = 0.148 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$C = 0.396 \times [\text{wt}\%C_{\text{fuel}}] = 0.396 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$D = 0.933 \times [\text{wt}\%H_{\text{fuel}}] = 0.933 \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$E = B + C + D = \underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$F = 21 - [\text{vol}\%_{\text{dry}}O_{2,\text{exhaust}}] = 21 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$G = [\text{vol}\%_{\text{dry}}O_{2,\text{exhaust}}] \div F = \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$H = 1 + G = 1 + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$I = E \times H = \underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

$$\text{SO}_2 \text{ concentration} = A \div I = \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{ PPMV}$$

The wt%S_{fuel}, wt%C_{fuel}, and wt%H_{fuel} are equal to the weight percents of sulfur, carbon, and hydrogen in the fuel. These percentages should total 100%.

The fuel weight percent (wt%) of sulfur is obtained pursuant to condition 5.1. The fuel weight percents of carbon and hydrogen are obtained from the fuel refiner.

The volume percent of oxygen in the exhaust (vol%_{dry}O_{2,exhaust}) is obtained from oxygen meters, manufacturer's data, or from the most recent Orsat analysis at the same engine load used in the calculation.

Enter all of the data in percentages without dividing the percentages by 100. For example, if wt%S_{fuel} = 1.0%, then enter 1.0 into the equations not 0.01 and if vol%_{dry}O_{2,exhaust} = 3.00%, then enter 3.00, not 0.03.

[18 AAC 50.350(g), 1/18/97]

Section 15. ADEC Notification Form

Fax this form to: (907) 209-7508 Telephone: (907) 209-8888

Union Oil Company of California
Company Name

Steelhead Platform
Facility Name

Reason for notification:

☐ **Excess Emissions**

*If you checked this box
fill out section 1*

☐ **Other Deviation from Permit Condition**

*If you checked this box
fill out section 2*

When did you discover the Excess Emissions or Other Deviation?

Date: __/__/__ Time: __:__

Section 1. Excess Emissions

(a) Event Information (Use 24-hour clock):

	START Time: (hr:min):	END Time:	Duration
Date: _____	_____:	_____:	_____:
Date: _____	_____:	_____:	_____:
		Total:	_____:

(b) Cause of Event (Check all that apply):

☐ START UP ☐ UPSET CONDITION ☐ CONTROL
EQUIPMENT
☐ SHUT DOWN ☐ SCHEDULED MAINTENANCE ☐ OTHER _____

Attach a detailed description of what happened, including the parameters or operating conditions exceeded.

(c) Sources Involved:

Identify each emission source involved in the event, using the same identification number and name as in the permit. List any control device or monitoring system affected by the event. Attach additional sheets as necessary.

Source ID No.	Source Name	Description	Control
Device			
_____	_____	_____	_____
_____	_____	_____	_____

(d) Emission Limit Potentially Exceeded

Identify each emission standard potentially exceeded during the event. Attach a list of ALL known or suspected injuries or health impacts. Identify what observation or data prompted this report. Attach additional sheets as necessary.

Permit Condition	Limit	Emissions Observed
_____	_____	_____
_____	_____	_____

(e) Excess Emission Reduction:

Attach a description of the measures taken to minimize and/or control emissions during the event.

(f) Corrective Actions:

Attach a description of corrective actions taken to restore the system to normal operation and to minimize or eliminate chances of a recurrence.

(g) Unavoidable Emissions:

Do you intend to assert that these excess emissions were unavoidable?

☐ YES ☐ NO

Do you intend to assert the affirmative defense of 18 AAC 50.235?

☐ YES ☐ NO

Section 2. Other Permit Deviations

(a) Sources Involved:

Identify each emission source involved in the event, using the same identification number and name as in the permit. List any control device or monitoring system affected by the event. Attach additional sheets as necessary.

Source ID No.	Source Name	Description	Control
Device			

(b) Permit Condition Deviation:

Identify each permit condition deviation or potential deviation. Attach additional sheets as necessary.

Permit Condition	Potential Deviation

(c) Corrective Actions:

Attach a description of actions taken to correct the deviation or potential deviation and to prevent recurrence.

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.

Printed Name:

Signature:

Date:

Alaska Department of Environmental Conservation

Air Permits Program

August 5, 2003

Union Oil Company of California

Steelhead Platform

Statement of Basis of the terms and conditions for

Permit No. AQ0009TVP01

June 20, 2003

Prepared by Scott Bailey

Significant Revision 1

June 6, 2006

Prepared by Kathy Stringham

INTRODUCTION

This document sets forth the legal and factual basis for the terms and conditions of Operating Permit No. AQ0009TVP01.

FACILITY IDENTIFICATION

Section 1 contains information on the Steelhead Platform provided in the Title V permit applications. Steelhead Platform is an off shore oil drilling facility, SIC code 1311, producing fuel gas and oil with some residual water in the oil. Fuel gas-fired equipment includes turbines, a flare and engines used in the oil production process. Oil and fuel gas are processed through oil/gas separators on the platform. Product oil/fuel gas is pumped through underwater pipelines to the Trading Bay Production Facility (TBPF) for sale. The fuel gas is also used for fuel on Steelhead Platform or flared.

The equipment at Steelhead Platform consists of three gas-fired turbines, two dual-fired turbines, one emergency diesel electric generator set, one standby diesel electric generator set, two diesel cranes, two diesel fire water pumps, two gas fired flares and a diesel fuel storage tank. A floating drill rig operates between the UOCC platforms in Cook Inlet including Steelhead Platform and contains two gas fired boilers, one dual-fired drilling turbine and two diesel drilling engines. Federal Prevention of Significant Deterioration (PSD) and Alaska Air Quality Regulations designate the area adjacent to Steelhead Platform as Class II.

The facility is owned and operated by Union Oil Company of California (UOCC), and Union Oil Company of California is the Permittee for the facility's operating permit.

SOURCE INVENTORY AND DESCRIPTION

Table 1 contains information on the sources at the facility as provided in the application, in Operating Permit 9423-AA003. Table 1 describes the sources regulated by the permit. The table is provided for information and identification purposes only. Specifically, the source rating/size provided in the table is not intended to create an enforceable limit.

The Department issued a PSD permit for the facility in May 1986. After a well blowout and fire in December 1987 the rebuilt platform was restarted in August 1988. An existing but uninstalled Allison KC-5 turbine was removed and replaced with a Solar Taurus T7000 turbine in 1991. In 1997 an existing and operating Allison KC-5 turbine was replaced with a low NO_x Solar Taurus 9500 turbine. In August 2001 the second KC-5 Allison turbine was removed from the Steelhead Platform.

EMISSIONS

Table A contains emission information as provided in the application and a Department review of emission increases approved since the turbine upgrade in September 1997. A summary of the potential to emit (PTE)⁷ from the Steelhead Platform based on the original Title V application and amendments received is shown in Table A.

Table A - Potential Emissions Summary, in Tons Per Year (tpy)

Pollutant	NO _x	CO	PM-10	SO ₂	VOC	Total
PTE	800	298	26	37	47	1,208
Assessable PTE	800	298	26	37	47	1,208

The assessable PTE listed under condition 1.2 is the sum of the emissions of each individual regulated air contaminant for which the facility has the potential to emit quantities greater than 10 tpy. The potential regulated emissions for fuel burning equipment are based on AP-42 factors, source tests and vendor data.

BASIS FOR REQUIRING AN OPERATING PERMIT

Section 2 includes a description of the regulatory classifications of the Steelhead Platform. This facility is classified in 18 AAC 50.325 (b)(1), (b)(3) and (c) because it has a PTE of more than 100 tpy of a regulated air contaminant, contains fuel-burning equipment with a rated capacity of 100 million Btu per hour or more and is a PSD size facility with sources subject to Federal New Source Performance Standards (NSPS).

Alaska regulations require operating permit applications to include identification of "regulated sources." As applied to Steelhead Platform, the state regulations require a description of:

- ⇒ Each source regulated by a standard in 18 AAC 50.055, Industrial Processes and Fuel Burning Equipment, under 18 AAC 50.335(e)(4)(C);
- ⇒ Each source subject to a standard adopted by reference in 18 AAC 50.040 under 18 AAC 50.335(e)(2); and
- ⇒ Sources subject to requirements in an existing Department permit 18 AAC 50.335(e)(5).

⁷ *Potential to Emit* or *PTE* means the maximum quantity of a release of an air contaminant, considering a facility's physical or operational design, based on continual operation of all sources with the facility for 24 hours a day, 365 days a year, reduced by the effect of pollution control equipment and approved state or federal limitations on the capacity of the facility's sources or the facility to emit an air contaminant, including the limitations such as restrictions on hours of rate of operation and type or amount of material combusted, stored, or processed as defined in AS 46.14.990(21), effective 1/18/97.

The emission sources at Steelhead Platform classified as "regulated sources" according to the above Department regulations are listed in Table 1 of Operating Permit No. AQ0009TVP01.

CURRENT AIR QUALITY PERMITS

Previous Air Quality Permit to Operate

The most recent permit issued for this facility is Air Quality Operating Permit 9423-AA003 and was issued before January 18, 1997. All facility-specific applicable requirements established in this previous permit, except those are included in the new operating permit as described in Table B.

Title I (Construction and Minor) Permits

No construction permits have been issued for this facility after January 18, 1997 (the effective date of the new divided operating and construction-permitting program).

On November 30, 2005, UOCC submitted a request for a minor revision to permit No. 9423-AA003 and a revision to Air Quality Operating Permit No. AQ0009TVP01. UOCC requested that certain conditions in Permit No. 9423-AA003 be rescinded because these limits are not based on a BACT determination, an ambient air quality analysis, or any other requirement in the statutes or regulations. These emission limits should not have been carried forward into AQ0009TVP01 because there is not a legal basis for these limits.

Title-V Operating Permit Application History

The owner or operator submitted an application on October 6, 1997.

The owner or operator amended this application on January 20, 1998; April 7, 1998; August 18, 1998 and June 14, 1999. In April 2003 UOCC withdrew plans for upgrading equipment on the Steelhead Platform with no further increase in emissions.

On February 15, 2006, UOCC requested a significant revision to clarify and correct some of the terms and conditions in Air Quality Operating Permit No. AQ0009TVP01.

The following permit revisions have been made:

1. Section 3, Table 1 – Diesel Tank H-T-32 (Emission Unit ID 14) was deleted from this table because it is no longer subject to any requirement of 40 CFR 60 Subpart Kb. The change is a significant permit revision under 40 C.F.R. 71.7(e)(3).
2. Condition 8.1 – These annual emissions in condition 8, Table 2 are not based on a BACT determination, an ambient air quality analysis, or any other requirement in the statutes or regulations. The deletion was accomplished as a minor permit revision under 18 AAC 50.508(6) and carried forward as a significant permit revision under 40 C.F.R. 71.7(e)(3).

3. Condition 8.2 – These annual emission limits in condition 8, Table 2 are not based on a BACT determination, an ambient air quality analysis, or any other requirement in the statutes or regulations. The deletion was accomplished as a minor permit revision under 18 AAC 50.508(6) and carried forward as a significant permit revision under 40 C.F.R. 71.7(e)(3).

4. Condition 8.3 – This condition was amended as follows to be consistent with the request to remove the annual emission limits in condition 8, Table 2.

Notify the Department per condition 46 should the annual average CO emission rates (lb/MMscf of fuel) ~~or the consecutive 12-month summations of NOx or CO emissions~~ for any source exceed the limits in Table 2.

The change was accomplished as a minor permit revision under 18 AAC 50.508(6) and carried forward as a significant permit revision under 40 C.F.R. 71.7(e)(3).

5. Condition 8, Table 2 – The column labeled “Annual Emission Limits (tpy) each unit” contains emission limits that are not based on BACT determination, an ambient air quality analysis, or any other requirement in the statutes or regulations. The column was removed as a minor permit revision under 18 AAC 50.508(6) and carried forward as a significant permit revision under 40 C.F.R. 71.7(e)(3).

6. Condition 15 – Diesel Tank H-T-32 (Emission Unit ID 14) is no longer subject to any requirement of 40 C.F.R. 60, Subpart Kb. Per the revision promulgated on October 15, 2003, 40 C.F.R. 60.110b(b) specifies the Subpart Kb does not apply to storage vessels with a capacity greater than 151 cubic meters storing a liquid with a maximum true vapor pressure of less than 3.5 kPa. Diesel Tank H-T-32 has a capacity of 3,570 barrels or 567.6 m³ and stores diesel fuel with a true vapor pressure that is less than 3.5 kPa. Therefore, Diesel Tank H-T-32 is no longer subject to the recordkeeping requirements in condition 15. The condition was deleted, and the change is a significant permit revision under 40 C.F.R. 71.7(e)(3).

7. Condition 41 – (formerly condition 42). The last sentence of this condition, i.e., A notarized signature is no longer required under 18 AAC 50.205(a), was deleted, and the change is a significant permit revision under 40 C.F.R. 71.7(e)(3).

8. Condition 48.1d – (formerly condition 49.1d). The condition requiring a notarized signature is no longer required under 18 AAC 50.205(a). The condition was deleted, and the change is a significant permit revision under 40 C.F.R. 71.7(e)(3).

9. Condition 63 – (formerly condition 64). This condition was changed as follows to be consistent with the visible emission observation requirement in other stationary source operating permits.

The Permittee shall observe the first six daylight flare events occurring at Source ID(s) 12 and 13 during the life of this permit.

The change was made as a significant permit revision under 40 C.F.R. 71.7(e)(3).

10. Section 15, Table 5 – These emission factors are no longer required, consistent with the request to amend condition 8, Table 2. The table was deleted, and the change is a significant permit revision under 40 C.F.R. 71.7(e)(3).

11. Page Header – The expiration date on the header of each page of the permit is corrected to be August 31, 2008 instead of September 4, 2003. The change is a significant permit revision under 40 C.F.R. 71.7(e)(3).

COMPLIANCE HISTORY

The facility has operated at its current location since 1967. Review of the current permit files for this facility, which includes the past inspection reports indicate a facility generally operating in compliance with its operating permit.

FACILITY-SPECIFIC REQUIREMENTS CARRIED FORWARD

State of Alaska regulations in 18 AAC 50.350(d)(1)(D) require that an operating permit include each facility-specific requirement established in a prior operating permit. The table below lists the permit condition that established a requirement in Operating Permit No. 9423-AA003 and the new condition in Operating Permit No. AQ0009TVP01 that carries the old requirement into the new permit.

Table B- Comparison of Pre-January 18, 1997 Permit No. 9423-AA003, Conditions to Operating Permit No. AQ0009TVP01 Conditions⁸

Permit No. 9423-AA003 Condition	Description of Requirement	Permit No. AQ0009TVP01 Condition	How condition was revised
Introductory paragraph and Exhibits A thru D	Authority for permit and source list Record operating hours for each source monthly. Report liquid fuel sulfur content	Section 2, Section 3, Section 5, conditions 7 thru 10,	New AQ regulations and permit format. New fuel sulfur analysis methods approved as part of 10/17/02 EPA Custom Fuel Monitoring Schedule. Operating hours modified to include owner requested IEU limits
1	comply with state air quality standards & increments	None	Now required only for construction permits
2	comply with most stringent emission standards, limits, specifications	Section 5, Section 12,	Standards, limits, specifications are now in several conditions
3	operate and maintain equipment to minimize emissions during startup and shutdown	12 & 24	Replaced by conditions 11 & 24
4	Burn only diesel fuel with sulfur $0.25\% \leq$ by weight, no single shipment of diesel fuel $> 0.3\%$ sulfur by weight	10	Same requirement
5	Perform ambient modeling exercise if tests for fuel gas H ₂ S concentration reaches 100ppm and a BACT analysis if fuel gas H ₂ S concentration reaches 200ppm	None	EPA custom fuel sulfur limit for Cook Inlet facilities. Specific ambient air impacts during the construction phase air emissions may be reviewed under AWQ Guidance No. AWQ 03-017.

⁸ This table does not include all standard and general conditions

Permit No. 9423-AA003 Condition	Description of Requirement	Permit No. AQ0009TVP01 Condition	How condition was revised
6	Operate Source IDs 10 & 11 more than 200 hours per year each	6	Same requirement.
7	Flow control for flaring systems equal to phase separator capacity. No liquids to flare.	None	No basis for requirement in 9423 - AA003
8	Perform source test within 90 days on any source in Exhibit A if requested by the Dept.	31	Same requirement for Table 1 Inventory, changed wording
9	Conduct source test at maximum rate of the facility or maximum anticipated operating rate using Reference Methods in 40 CFR 60, Appendix A unless	32.2	Same requirement for Table 1 inventory.
10	Submit source test plans within 30 & 60 day windows specified prior to testing	37	Same requirement, changed wording
11	Written notification 10 days prior to testing	37	Same requirement, changed wording
12	Continuous monitoring of parameters in Exhibit D- fuel use, operating hours & fuel sulfur content	5, 7, 10	Fuel use deleted. No basis for fuel limit in previous permit. Hours of operation sufficient for calculating emissions. Modified requirement, changed wording
13	Submit source test results	39	Same requirement, changed wording
14	Source test any equipment if deemed necessary by Dept. to show compliance w standards or limits	31	Same requirement, changed wording
15	Operate Process monitors per Exhibit D	5, 7, 10	Fuel use deleted. No basis for fuel limit in previous permit. Fuel sulfur and hours requirements retained.
16	Routinely monitor for H ₂ S in fuel gas, use GPA Std 2377-86 per schedule in Exhibit D	17.1 and 17.3	Same requirement, changed wording. EPA custom fuel monitoring schedule issued 10/17/02 for UOCC Cook Inlet facilities.
17	Analyze each fuel oil delivery for fuel sulfur level.	5.1	Same requirement, changed wording

Permit No. 9423-AA003 Condition	Description of Requirement	Permit No. AQ0009TVP01 Condition	How condition was revised
18	If burning used oil, take sample monthly, analyze for compliance with 40 CFR 279 & sulfur content.	None	Prohibition per owner requested limit on 12/12/2000.
19	Notify the Dept. within 24 hour-fax or phone-of any excess emissions	45	Same requirement, changed wording
20	Submit written excess emissions report within 5 days unless notified per 17	45	Same requirement, changed wording
21	Access to the facility	55	Same requirement, changed wording
22	Submit 2 copies semi-annual Facility Operating Reports Jan. 30 & July 30	47	Same requirement, changed wording
23	Maintain records	44	Same requirement, changed wording
24	Notify Dept. 30 days prior to any change that would result in an increase in air emissions	None	Removed. State-only reporting for modifications required in a construction permit.
25	Display permit in control room, keep on file	None	Removed. State only display required.
26	Complete non-impact showing for 18AAC50.110.	None	State rescinded requirement April 28, 1995

LEGAL AND FACTUAL BASIS FOR THE PERMIT CONDITIONS

Applicability: The state and federal regulations for each condition are cited in Operating Permit No. AQ0009TVP01.

Conditions 1 - 2. Assessable Emissions and Fee Requirements

Applicability: This state regulation applies because the Permittee is subject to the requirements in 18 AAC 50.

Factual Basis: These conditions require the Permittee to pay fees in accordance with 18 AAC 50.410 and the department's billing regulations in 18 AAC 50.420. The department's billing regulations set the due dates for payment of fees based on the billing date. The department will use these standard conditions in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

The conditions also set forth how the Permittee may recompute assessable emissions. If the Permittee does not choose to annually calculate assessable emissions, emissions fees may be paid based on "potential to emit." Emissions from Source ID(s) 12 and 13, gas flares, are based on the actual flaring volume in 2001 reported to the Alaska Oil and Gas Conservation Commission.

The PTE set forth for the Steelhead Platform in the condition is based on 0.5% by weight sulfur content or fuel gas with a sulfur content of 25 ppmv H₂S by volume. If the actual sulfur content of the fuel is greater than these assumptions, the assessable emissions calculations provided by the Permittee should reflect the actual sulfur content.

Condition 3 and Section 12. Visible Emissions Standard

Applicability: The visible emission standard 18 AAC 50.055(a)(1) applies to operation of industrial processes and all fuel-burning equipment in Alaska. Source ID(s) 1- 13 are fuel-burning equipment.

Factual Basis: The condition cites the state visible emission standard applicable to fuel-burning equipment. The Permittee shall not cause or allow the boilers and engines to violate this standard. The monitoring, recordkeeping, and reporting requirements for visible emissions are listed in Section 12 of the permit. The department will use this standard condition in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

State air quality regulations adopted effective May 3, 2002 allow for an average six minute opacity observation. The existing regulation, limiting opacity to no more than 20% for more than 3 minutes in any one hour, is included because EPA Region X has not formally approved the changed opacity regulation as part of Alaska's State Implementation Plan (SIP).

There are two options for monitoring visible emissions. One option requires the Permittee to observe visible emissions in accordance with the state reference test method (i.e. 40 C.F.R. 60, Method-9). The other option requires the Permittee to momentarily observe

the exhaust for presence or absence of smoke. This latter option takes into account the difficulty and expense of getting certified readers to remote locations in Alaska.

Gas Fired:

Monitoring – The monitoring of gas fired sources for visible emissions is waived, i.e. no source testing will be required. The Department has found that fuel gas fired equipment inherently has negligible PM emissions. However, the Department can request a source test for PM emissions from any smoking equipment.

Reporting – The Permittee must annually certify that only gaseous fuels are used in the equipment.

Liquid Fired:

Monitoring – The visible emissions are to be observed by using Method-9 as detailed in Section 12. Corrective actions such as maintenance procedures and either more frequent or less frequent testing may be required depending on the results of the observations.

Recordkeeping – The Permittee is required to record the results of all visible emission observations and record any actions taken to reduce visible emissions.

Reporting – The Permittee is required to report: 1) emissions in excess of the federal and the state visible emissions standard and 2) deviations from permit conditions. The Permittee is required to include copies of the results of all visible emission observations with the operating report.

Dual Fuel-Fired Sources:

For Source ID(s)1 and 2, as long as they operate only on gas, monitoring consists of an annual certification that only gaseous fuels were used in the equipment. When any of these sources operates on a backup liquid fuel for more than 400 hours in a calendar year, monitoring as detailed in condition 59 is required for that source in accordance with recently issued Department Guidance AWQ 02-014. When any of these sources operates on a backup liquid fuel for less than 400 hours in a calendar year, monitoring for that source consists of an annual certification of compliance with the opacity standard. The 400-hour trigger for additional monitoring applies to each individual unit and not as a combined total for all units.

Condition 4 and Section 12. Particulate Matter (PM) Standard

Applicability: The PM standard in 18 AAC 50.055(b)(1) applies to operation of all fuel burning equipment in Alaska. Source ID(s) 1 - 13 are fuel-burning equipment. The SIP standard for PM applies to all fuel-burning equipment because it is contained in the federally approved SIP dated October 1983. However, monitoring of flares for the particulate matter is waived, i.e. no source testing will be required, because of the difficulty and questionable results these tests produce when applied to flares. The Department has recognized this fact by incorporating the waiver in the State Implementation Plan adopted in November 1984 which has not been federally approved.

Factual Basis: The condition cites the state particulate-matter emission standard applicable to fuel-burning equipment. The monitoring, recordkeeping, and reporting requirements are listed in Section 12 of the permit. The department will use this standard

condition in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

The requirement to test for particulate matter to determine compliance with the standard is triggered by the results of visible emission observations, conducted in accordance with the state reference test method, only if the results show noncompliance with the visible emission standard or the average opacity.

Gas Fired:

Monitoring – The monitoring of gas fired sources for particulate matter is waived, i.e. no source testing will be required. The department has found that fuel gas fired equipment inherently has negligible PM emissions. However, the department can request a source test for PM emissions from any smoking equipment.

Reporting – The Permittee must annually certify that only gaseous fuels are used in the equipment.

Liquid Fired:

Monitoring – The Permittee is required to conduct PM source testing if threshold values for opacity are exceeded.

Recordkeeping - The Permittee is required to record the results of PM source tests.

Reporting - The Permittee is required to report: 1) incidents when emissions in excess of the opacity threshold values have been observed and 2) results of PM source tests. The Permittee is required to include copies of the results of all visible emission observations with the operating report.

Dual Fuel-Fired Sources:

For Source ID(s)1 and 2, as long as they operate only on gas, monitoring consists of an annual certification that only gaseous fuels were used in the equipment. When any of these sources operates on a backup liquid fuel for more than 400 hours in a calendar year, monitoring as detailed in conditions 61 and 62 is required for that source in accordance with recently issued Department Guidance AWQ 02-014. When any of these sources operates on a backup liquid fuel for less than 400 hours in a calendar year, monitoring for that source consists of an annual certification of compliance with the particulate matter standard. The 400-hour trigger for additional monitoring applies to each individual unit and not as a combined total for all units.

Condition 5. Sulfur Compound Emissions

Applicability: The sulfur emission standard in 18 AAC 50.055(c) applies to the operation of all fuel-burning equipment in the State of Alaska. The SIP standard for sulfur dioxide applies because it is contained in the federally approved SIP dated October 1983.

Factual Basis: The condition re-iterates a sulfur emission standard applicable to fuel-burning equipment. The Permittee may not cause or allow their equipment to violate this standard. The department will use this standard condition in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

Diesel Fuel (Fuel Oil): Fuel oil sulfur is measured in weight percent sulfur. Calculation shows that fuel containing no more than 0.75% sulfur will always comply with the emission standard. This is true for all liquid hydrocarbon fuels, even with no excess air. Verification of ASTM fuel grade as No. 1 or No. 2 fuel oil will certify compliance with the standard because these fuel oils always have a fuel sulfur content of no more than 0.5%. For fuels with a sulfur content higher than 0.75%, this condition requires the Permittee to use the equations in Section 14 to calculate the exhaust gas SO₂ concentration, showing whether the standard was exceeded. The equations in Section 14 are all based on stoichiometric mass balance.⁹

Fuel Gas: Fuel gas sulfur is measured as hydrogen sulfide, i.e. H₂S concentration in ppmv by volume. Calculations made by the Department show that fuel gas containing no more than 4000 ppmv H₂S would always comply with the exhaust emission standard of 500 ppmv SO₂. This is true for all fuel gases, even with no excess air. Since the current H₂S concentration in the fuel gas, measured by a length-of-stain detector, is less than 1ppmv the potential for exceeding the state emission standard during the current permit term is negligible. For UOCC facilities in Cook Inlet subject to NSPS regulations the EPA granted UOCC a custom fuel monitoring plan on October 17, 2002 for the current fuel gas source.

The Department approved, at UOCC's request, the alternate less accurate test method for measuring the H₂S concentration since the H₂S concentrations are much less than the concentration that would cause a violation of the 500 ppmv SO₂ emission standard. Equations to calculate the exhaust gas SO₂ concentrations resulting from the combustion of fuel gas are not included in this permit. Fuel gas with an H₂S concentration of even 10% of 4000 ppmv is not projected to be available at the Steelhead Platform during the life of this permit.

Conditions 6 - 10. Operating Conditions Carried Forward

Applicability: The previous Operating Permit 9423-AA003 contained conditions that must be carried forward to this Title V permit. These conditions contain requirements to measure fuel consumption and operating hours so that emission levels may be calculated for all fuel burning equipment.

Factual Basis: These conditions contain requirements to monitor, record and report fuel use and operating hours for all sources. The original PSD permit contained BACT limits, which could not be changed without a new construction permit. Minor permit AQ0009MSS01 removed the column in Table 2 titled "Annual Emission Limits (tpy) each unit" and left the column "Emission Limit per Individual Unit" because the tpy limits are not based on a BACT determination, an ambient air quality analysis, or any other requirement in the statutes or regulations.

⁹ <http://www.state.ak.us/dec/dawq/aqm/newpermit.htm>

Conditions 11 - 14. NSPS Subpart A Requirements

Applicability: The Department has incorporated by reference the NSPS effective July 1, 2001, for specific industrial activities, as listed in 18 AAC 50.040. However, EPA has not delegated to the Department the authority to administer the NSPS program as of October 2002.

Most (with the exception of some storage tanks) sources subject to an NSPS are subject to Subpart A. At this facility, Source ID(s) 1 through 5 are subject to NSPS Subpart GG and therefore subject to Subpart A.

Factual Basis: Subpart A contains the general requirements applicable to all affected facilities (sources) subject to NSPS. In general the intent of NSPS is to provide technology-based emission control standards.

Conditions 15 - 16. NSPS Subpart GG Turbine NO_x Requirements

Applicability: NSPS Subpart GG applies to stationary gas turbines with a heat input at peak load (maximum load at 60 percent relative humidity, 59 degrees F, and 14.7 psi) equal to or greater than 10.7 gigajoules per hour (10 MMBtu/hr), based on the lower heating value of the fuels fired and constructed, modified, or reconstructed after October 3, 1977.

Factual Basis: Based on UOCC submittal of vendor's heat input rate the NSPS Subpart GG emission limits for NO_x for Source ID(s) 1 through 5 are listed in condition 15. For UOCC facilities in Cook Inlet subject to NSPS regulations the EPA granted UOCC a custom fuel monitoring plan on October 17, 2002 for the current fuel gas source.

The Department does not have enough information to make categorical determinations that certain types of turbines, or turbines with emission test results below a certain percentage of the Subpart GG NO_x emission limit will inherently comply with the Subpart GG limit at all times and will never need additional testing. After a sufficient body of NO_x data is gathered under monitoring conditions for compliance with 40 C.F.R. 60, Subpart GG, the Department may find that it has enough information to make such categorical determinations. In that event, the Department would revise the NO_x monitoring conditions. The Department may determine that to assure compliance it is necessary to retain or increase the current monitoring frequency.

These conditions do not include the initial NSPS performance test requirements. If a turbine under this permit is still subject to the performance test requirement of 40 C.F.R. 60.8, a source specific condition will be necessary.

The intent of these conditions is that turbines or groups of turbines be initially tested on a 5-year cycle. If no testing is required during the permit term, and if the same condition were used in the renewal permit initial testing could be on a 10-year testing cycle. After the first testing cycle, the Department intends to re-evaluate the necessary monitoring frequency.

The condition does not state how load must be measured. For some turbines it may be possible to directly measure load as either mechanical or electrical output. For others, it may be necessary to calculate load indirectly based on measurements of other parameters. The Department is not attempting to dictate what method is most appropriate through the permit condition, but should evaluate the adequacy of methods of calculating load based on the load monitoring proposed by the Permittee.

Subpart GG defines "emergency gas turbine" and exempts turbines meeting that definition from the GG emission standards. Some turbines may be operated as standby equipment but not meet the definition of emergency turbine, so the Department has added a Method 20 monitoring threshold of 400 hours per 12-months. For turbines expected to operate less than 400 hours the Department has also added recordkeeping for hours of operation. The Department does not intend to require the Permittee to operate a turbine solely for the purpose of testing.

The condition requires testing at a range of loads, consistent with the performance test requirements in Subpart GG, that is, test at 30, 50, 75, and 100 percent load. If testing at these four loads is not reasonable, the condition allows the Permittee to propose to the Department what test loads will be reasonable and adequate, and the Department will have the responsibility to make a finding on that proposal. If EPA has already approved alternative test loads for the initial performance test the Department would allow those test loads if the information that went into that decision were still representative of the turbine operation.

Load measurements or load calculations from load surrogate measurements are for one-hour periods. The intent is to match the averaging period for the test method. Method 20 identifies a number of traverse points that vary with the size of the stack. From these points the tester is to choose at least 8 points for NO_x measurements. The time at each point is to be at least one minute plus the average response time of the instrument. The recorded value is the average steady state response. Presumably, the steady state response would exclude some or all of the response time of the instrument. Three runs are to be done at each test load.

The three runs would represent 24 minutes of measurement time or more. A one-hour average load is therefore a reasonable approximation of a load period corresponding to the test method.

Condition 17. NSPS Subpart GG SO_x Monitoring, Recordkeeping, and Reporting

Applicability: This condition incorporates NSPS Subpart GG SO₂ emission and sulfur compound limits. The Permittee may not allow equipment to violate these standards. For UOCC facilities in Cook Inlet subject to NSPS regulations, the EPA granted UOCC a custom fuel sulfur monitoring schedule on October 17, 2002 for the current fuel gas source.

Factual Basis: Source ID(s) 1 through 5 are subject to the SO₂ emission standards in Subpart GG. Monitoring, recordkeeping, and reporting requirements for this condition are described in NSPS Subpart GG and in an EPA granted custom fuel sulfur monitoring schedule and have been referenced here. No additional monitoring outside of the Subpart GG requirements is necessary to ensure compliance with the NSPS SO₂ standard.

Monitoring: Condition 17.1 incorporates NSPS Subpart GG fuel sulfur monitoring requirements.

Recordkeeping: The Permittee is required to maintain records of all sulfur monitoring data required by NSPS Subpart GG for five years as set out in 18 AAC 50.350(h)(5).

Reporting: NSPS Subpart GG SO₂ custom schedule reporting requirements are incorporated in the permit in condition 17.1 through 17.3. In condition 17.7 the Department requests that a summary report of the results from the monitoring requirements in condition 17.1 be included in the Operating Report required under condition 47.

Conditions 18 - 21. Insignificant Sources

Applicability: These state regulations apply because the Permittee is subject to the requirements in 18 AAC 50.055 (a), 18 AAC 50.055 (b)(1), and 18 AAC 50.055 (c)(1) as amended on May 3, 2002.

Factual Basis: The insignificant source section of the permit replaces the 1 MMBtu/hr gas fired source exemption of former permits. The regulations require the Permittee to report if an insignificant source becomes significant and certify that their insignificant sources comply with applicable requirements. Insignificant sources must comply with the air pollution prohibitions. These standard conditions restate the regulatory requirement.

Condition 18 requires certification that the sources did not exceed state emission standards during the previous year and did not emit any prohibited air pollution. The general emission standards in conditions 19 through 21 apply to all industrial process fuel-burning equipment.

State air quality regulations adopted effective May 3, 2002 allow for an average six minute opacity observation. The existing regulation, limiting opacity to no more than 20% for more than 3 minutes in any one hour, is included because EPA Region X has not formally approved the changed opacity regulation as part of Alaska's State Implementation Plan (SIP).

Condition 22. Asbestos NESHAP

Applicability: If the Permittee engages in asbestos demolition and renovation, then these requirements may apply.

Factual Basis: The condition restates the prohibition on stack injection (i.e. disposing of material by injecting it into a stack). No specific monitoring for this condition is practical. Compliance is ensured by inspections, because the source or stack would need to be modified to accommodate stack injection.

Condition 23. Halon Recycling and Disposal

Applicability: Applies if the Permittee engages in the recycling or disposal of certain ozone depleting substances.

Factual Basis: The condition requires the Permittee to comply with the standards for recycling and emission reduction of halon compounds as set forth in 40 C.F.R. 82, Subpart F, that will apply if the Permittee uses certain fire suppressants or refrigerants. Because these regulations include adequate monitoring and reporting requirements and because the

Permittee is not currently engaged in such activity, simply citing the regulatory requirements is sufficient to ensure compliance with this federal regulation.

Condition 24. Good Air Pollution Control Practice

Applicability: Applies to all fuel burning sources, **except** NSPS regulated sources, i.e. Source ID(s) 1 through 5.

Factual Basis: The condition requires the Permittee to comply with good air pollution control practices for all sources.

Maintaining and operating equipment in good working order is fundamental to preventing unnecessary or excess emissions. Standard conditions for monitoring compliance with emission standards are based on the assumption that good maintenance is performed. Without appropriate maintenance, equipment can deteriorate more quickly than with appropriate maintenance. If appropriate maintenance is not applied to the equipment, the Department may have to apply more frequent periodic monitoring requirements (unless the monitoring is already continuous) to ensure that the monitoring results are representative of actual emissions.

The Permittee is required to keep maintenance records to show that proper maintenance procedures were followed, and to make the records available to the Department. The Department may use these records as a trigger for requesting source testing if the records show that maintenance has been deferred.

Condition 25. Dilution

Applicability: Applies to the Permittee because the Permittee must comply with emission standards in 18 AAC 50.

Factual Basis: The underlying regulation is 18 AAC 50.045(a). The requirement prohibits diluting emissions as a means of compliance. In practical terms, dilution only affects compliance when the emissions are being measured. Careful reviews of source test plans and operating conditions should reveal any dilution as a result of the introduction of non-process air into the exhaust.

Condition 26. Stack Injection

Applicability: Applies to the facility because the facility contains a stack or source modified after November 1, 1982.

Factual Basis: The condition prohibits the Permittee from releasing materials other than process emissions, products of combustion, or materials introduced to control pollutant emissions from a stack (i.e. disposing of material by injecting it into a stack). No specific monitoring for this condition is practical. Compliance is ensured by inspections, because the source or stack would need to be modified to accommodate stack injection.

Condition 27. Open Burning

Applicability: The Permittee has requested this condition.

Factual Basis: Extensive monitoring and recordkeeping is not warranted because the Permittee has requested a permit condition to exclude open burning at the facility.

Condition 28. Air Pollution Prohibited

Applicability: These state regulations apply because the Permittee is subject to the requirements in 18 AAC 50.

Factual Basis: The underlying regulations are 18 AAC 50.110 and 18 AAC 50.346. The department will use these standard conditions in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

Condition 29. Technology-Based Emission Standard

Applicability: Technology Based Emission Standard requirements apply to the facility because the facility contains equipment subject to a technology-based emission standard, such as BACT, MACT, LAER, NSPS or other "technologically feasible" determinations.

Factual Basis: The Permittee is required to take reasonable steps to minimize emissions if certain activity causes an exceedance of any technology-based emission standard in this permit. The conditions of this permit list applicable technology-based emission standards and require excess emission reporting for each standard in accordance with condition 45. Excess emission reporting under condition 45 requires information on the steps taken to minimize emissions; the report required under condition 45 is adequate monitoring for compliance with this condition.

Condition 30. Permit Renewal

Applicability: Applies if the Permittee intends to renew the permit.

Factual Basis: The condition restates the regulatory deadlines, citing the specific dates applicable to the facility.

Condition 31. Requested Source Tests

Applicability: These state regulations apply because the Permittee is subject to the requirements in 18 AAC 50.

Factual Basis: The underlying regulations are 18 AAC 50.220 and 18 AAC 50.345. The department will use this standard condition in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

Conditions 32 - 34. Operating Conditions, Reference Test Methods and Excess Air Requirements

Applicability: These state regulations apply because the Permittee is subject to the requirements in 18 AAC 50.

Factual Basis: The underlying regulations are 18 AAC 50.030, 18 AAC 040 and 18 AAC 50.220. These conditions restate regulatory requirements for source testing. As such, they supplement the specific monitoring requirements stated elsewhere in this permit. The department will use these standard conditions in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

Condition 35. Test Exemption

Applicability: Applies when the source exhaust is observed for visible emissions.

Factual Basis: As provided in 18 AAC 50.345(a), 5/03/02, the requirements for test plans, notifications and reports do not apply to visible emissions observations by smoke readers, except in connection with required particulate matter testing.

Conditions 36 - 39. Extension, Test Plans, Notification & Reports

Applicability: These state regulations apply because the Permittee is subject to the requirements in 18 AAC 50.

Factual Basis: The underlying regulations are 18 AAC 50.345 and 18 AAC 50.346. The department will use these standard conditions in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

Condition 40. Particulate Matter (PM) Calculations

Applicability: Applies when the Permittee tests for compliance with the particulate matter standard.

Factual Basis: The condition incorporates a regulatory requirement for particulate matter source tests. The Permittee must use a certain equation to calculate the particulate-matter emission concentration from the source test results.

Condition 41. Certification

Applicability: This State regulation applies to certification of reports because the Permittee is subject to the requirements in 18 AAC 50.

Factual Basis: This condition requires the Permittee to certify all reports submitted to the Department. To ease the certification burden on the Permittee, the condition allows the excess emission reports to be **certified** with the stationary source report, even though it must still be **submitted** more frequently than the stationary source operating report. This condition supplements the reporting requirements of this permit.

Condition 42. Submittals

Applicability: Applies because the Permittee is required to send reports to the department.

Factual Basis: This condition merely specifies where submittals to the department should be sent. Receipt of the submittal at the correct department office is sufficient monitoring for this condition.

Condition 43. Information Requests

Applicability: This state regulation applies to information requests from the Department because the Permittee is subject to the requirements in 18 AAC 50.

Factual Basis: The underlying regulations are 18 AAC 50.200, 18 AAC 50.345 and 18 AAC 50.350. The department will use this standard condition in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

Condition 44. Recordkeeping Requirements

Applicability: Applies to records required by a permit.

Factual Basis: The condition restates the regulatory requirements for recordkeeping, and supplements the recordkeeping defined for specific conditions in the permit. The department will use this standard condition in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

Condition 45. Excess Emission and Permit Deviation Reports

Applicability: This state regulation applies because the Permittee is subject to the requirements in 18 AAC 50.

Factual Basis: The underlying regulations are 18 AAC 50.200, 18 AAC 50.350 and 18 AAC 50.346. The department will use this standard condition in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

Condition 46. NSPS and NESHAP Reports

Applicability: Applies to facilities subject to NSPS and NESHAP federal regulations because the Permittee is subject to the requirements in 18 AAC 50.040.

Factual Basis: The condition supplements the specific reporting requirements in 40 C.F.R. 60 and 40 C.F.R. 61.

Condition 47. Operating Reports

Applicability: Applies to records required by a permit.

Factual Basis: The condition restates the regulatory requirements for recordkeeping, and supplements the recordkeeping defined for specific conditions in the permit. The department

will use this standard condition in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

Condition 48. Annual Compliance Certification

Applicability: Applies to all Permittees.

Factual Basis: This condition specifies the periodic compliance certification requirements, and specifies a due date for the annual compliance certification. The reports themselves provide monitoring for compliance with this condition.

Conditions 49 - 55. Standard Conditions

Applicability: These state regulations apply because the Permittee is subject to the requirements in 18 AAC 50.

Factual Basis: The underlying regulation is 18 AAC 50.346. These standard conditions meet the requirements under the Clean Air Act for demonstrating general compliance with a Title V permit. The department will use these standard conditions in any operating permit unless the department determines that source or facility specific conditions more adequately meet the requirements of 18 AAC 50.

Condition 56. Permit Shield

Applicability: Applies because the Permittee has requested a shield for the applicable requirements listed under this condition.

Factual Basis: Table C explains the permit shield requests, which were not granted, and the department's Applicability determination. The permit conditions sets forth the requirements that the department determined were not applicable to the facility, based on the permit application, past operating permit, construction permits and inspection reports.

Table C. Permit Shield Decision

Shield requested for:	Shielded	Reason for shield decision
40 C.F.R. 61, Subpart M	No	Removing asbestos makes facility subject to 40 C.F.R. 61
Facility 40 C.F.R. 82 Subparts F	NO	Facility contains halon fire fighting equipment.

Conditions 57 - 62. (Section 12)- Visible Emissions and PM Monitoring Plan (Fuel Gas and Liquid Fuel)

Applicability: Applies because these conditions detail the monitoring, recordkeeping, and reporting required in conditions 3 and 4.

Factual Basis: Each permit term and condition must include MR&R requirements showing verifiable compliance with each permit term and condition. The Permittee must establish by actual visual observations which can be supplemented by other means, such as a defined Facility Operation and Maintenance Program, that the facility is in continuous compliance with the State's emission standards for visible emissions and particulate matter. The correlation between particulate matter and visible emissions that is the basis for this monitoring procedure is discussed under conditions 3 and 4.

These conditions detail a stepwise process for monitoring compliance with the State's visible emissions and particulate matter standards for liquid and gas fired sources. Equipment types covered by these conditions are internal combustion engines, turbines, heaters, boilers, and flares. Initial monitoring frequency schedules are established along with subsequent reductions or increases in frequency depending on the results of the self-monitoring program.

Monitoring frequencies for hydrocarbon fuels, both liquid and gaseous, are detailed in these conditions. The monitoring intervals for gaseous fuels are less frequent than for liquid fuels in recognition of the reduced propensity of gaseous fuels to produce particulate matter as a result of combustion. This reduced level of monitoring for individual facilities in conjunction with the very large number of gas fired sources in Alaska should provide the department with sufficient data to evaluate the compliance history of these sources as a category.

Reasonable action thresholds are established in these conditions that require the Permittee to progressively address potential visible emission problems from sources either through maintenance programs and/or more rigorous tests that will quantify whether a specific emission standard has been exceeded.

Insignificant Sources:

UOCC amended the Title V Operating permit application in April 2003 certifying that Source ID(s) 6 through 11 are insignificant emission units (IEUs) based on the owner requested thresholds on operating hours. As long as the source does not exceed the operating hour threshold it is insignificant for emissions as specified in 18 AAC 50.335(r) and no monitoring is required in accordance with Department Guidance AWQ 02-014 issued April 2, 2002. The Permittee must annually certify compliance under condition 47 with the opacity standard.

Condition 63. Visible Emission Monitoring for Flares

Applicability: Applies because these conditions detail the monitoring, recordkeeping, and reporting required in condition 3 for gas-fired flares.

Factual Basis: Monitoring of the flare, Source ID(s) 12 and 13, requires Method-9 observations of scheduled flaring events lasting more than one hour. The Permittee must report the results of these observations to the Department.

The original condition for flare monitoring, jointly developed by the Department and the Alaska Oil and Gas Association (AOGA) was originally developed to provide a standardized version of flare monitoring that is not dependant upon the type of upstream treatment equipment. It has been assumed that gas-fired "smokeless" flares normally burn without emitting visible emissions, but actual field data demonstrating this assumption is not available. However, gas-fired flares have been shown to smoke when a control device - a knockout drum, flare scrubber, gas or steam assist, or vapor recovery system-malfunctions. Thus, the original protocol set out a method to collect actual field data to support the "smokeless" assumption and requires corrective action to correct malfunctions.

Since it is impractical to require facilities to have a certified Method-9 opacity reader on site for an unpredictable emergency flare event, the monitoring protocol requires Method-9 readings only during predictable and quantifiable flare events. Predictable and quantifiable events are defined as those generated by scheduled maintenance activities or non-upset modes of operations as well as planned startup and shutdown events.

Recordkeeping and reporting is designed to facilitate data collection. It is believed that the six observations of "smokeless" flare events in the standard condition should be sufficient to reduce monitoring to a minimum contingent upon the assurance that all control devices are operating acceptably.

UOCC completed three sets of flare visible emission monitoring on September 24, 2002, May 21 and 25, 2003 and submitted the results to the Department on June 18, 2003.

The Permit Revision 1 updates this condition to include the first six daylight observations for visible emissions. The Cook Inlet Platforms have daylight readings specified for flaring events because the water surface does not provide any discernible background at night for conducting visible emission readings.

**RESPONSE TO COMMENTS
UNION OIL COMPANY OF CALIFORNIA (UOCC)
MINOR PERMIT NO. AQ0009MSS01 TO RESCIND EXISTING TITLE I CONDITIONS
AND
SIGNIFICANT REVISION AQ0009TVP01
Final – June 6, 2006**

Union Oil Company of California (UOCC) requested a significant revision to revise AQ0009TVP01 and the statement of basis for that permit, and requested minor permit AQ0009MSS01 to revoke Title I conditions contained in AQ0009TVP01. The Alaska Department of Environmental Conservation (ADEC) prepared proposed permits and accepted public comments on the permits from February 24, 2006 through March 27, 2006.

ADEC received comments on the significant revision from one entity:

- (1) Ms. Janet Bounds, Senior Environmental Scientist, UOCC
submitted by email, dated March 13, 2006.

This document contains ADEC's responses (shown in *bold italics*) to comments on the proposed permits.

COMMENTS ON SIGNIFICANT REVISION PERMIT NO. AQ0009TVP01

Comment 1: "Section 1. Please update the Facility and Building contact to: Mark Atkins / Paul Bartolowits, Foremen."

Comment 2: "The reference to Granite Point Tank Farm should be to Trading Bay Production Facility (TBPF). Oil /fuel gas is pumped through underwater pipelines to the TBPF, not GPTF. This is not a change in the method of operation. The reference to GPTF is typographical."

Comment 3: "Union Oil Company of California is no longer using the acronym Unocal. Please replace the acronym Unocal with UOCC."

The facility and building contact has been updated as requested.

The reference to Granite Point Tank Farm has been changed to Trading Bay Production Facility (TBPF) as requested.

The Unocal acronym has been replaced with UOCC as requested.

COMMENTS ON MINOR PERMIT NO. AQ0009MSS01

Comment 4: "Technical Analysis Report, Section 1.1 The reference to Granite Point Tank Farm should be to Trading Bay Production Facility (TBPF). Oil /fuel gas is pumped though underwater pipelines to the TBPF, not GPTF. This is not a change in the method of operation. The reference to GPTF is typographical."

Comment 5: "Union Oil Company of California is no longer using the acronym Unocal. Please replace the acronym Unocal with UOCC."

The reference to Granite Point Tank Farm has been changed to Trading Bay Production Facility (TBPF) as requested.

The Unocal acronym has been replaced with UOCC as requested.

